DECEMBER 8, 1958

PURCHASING

The Methods and News Magazine for Industrial Buyers

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PURCHASING

The Methods and News Magazine For Industrial Buyers

DECEMBER 8, 1958
VOLUME 45, No. 11

B. P. MAST, *Chairman of the Board*
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RAY RICHARDS, *Publisher*

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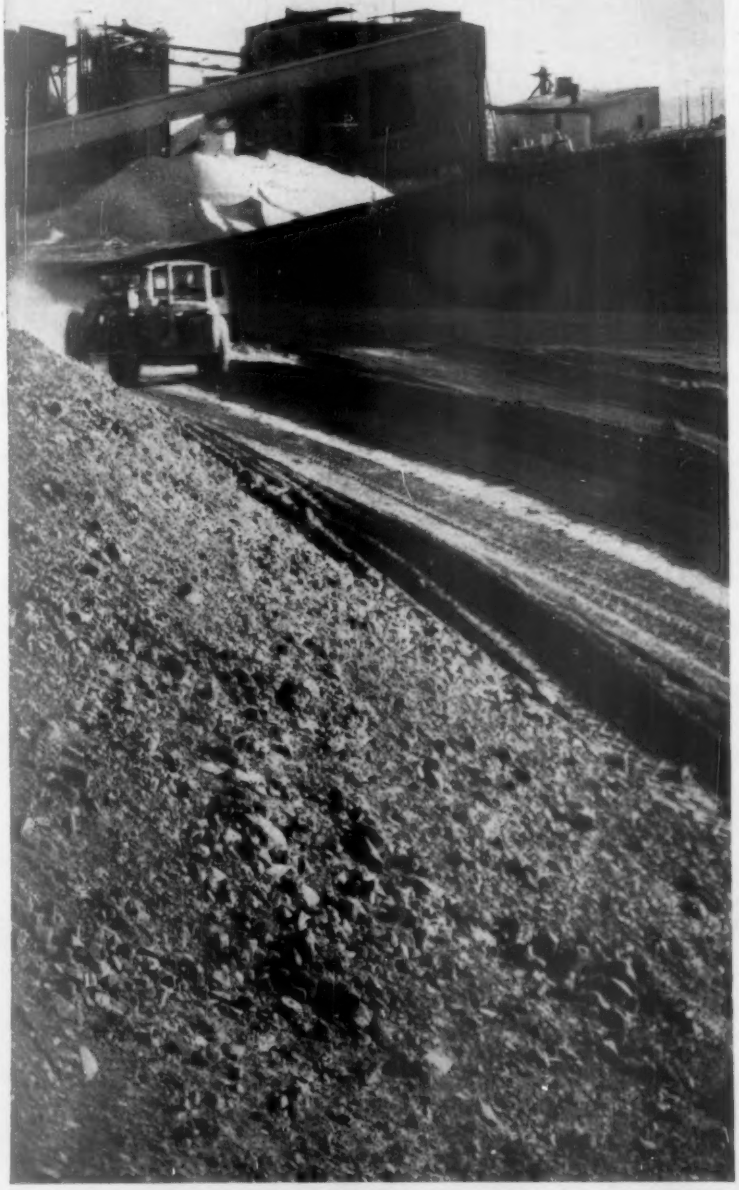
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Pulse of Business

It Could Have Been Worse

The year 1958 hasn't been the most successful one for business, but it could have been a lot worse. In fact, back in January many economists, business leaders, and purchasing agents thought it would be much, much worse than it turned out to be.

But looking at some of the important figures released recently, it's obvious that we've come out of the recession in good shape. The Administration's hands-off-the-economy policy in the dark months of winter and spring sharply reduced the threat of runaway inflation in later months. And the built-in stabilizers in our economy—unemployment insurance, supplementary unemployment benefits, and other similar programs helped offset some of the recession shock.

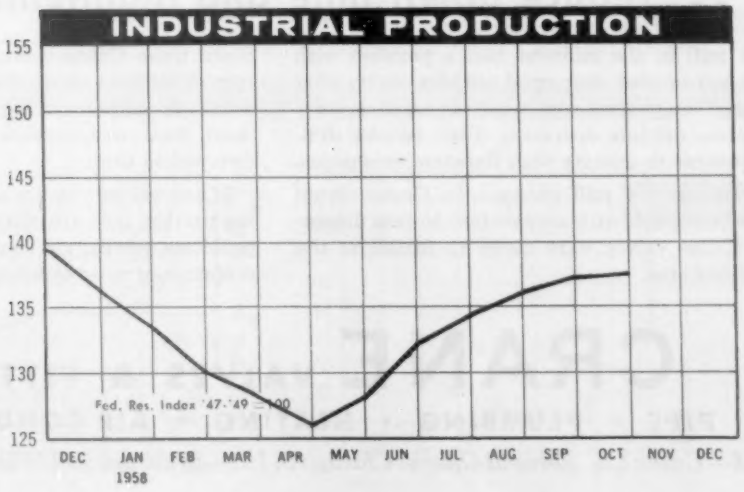
Let's Look At The Record

Let's compare the situation today with that of twelve months ago and see just how much better the economy looks. The November 1957 Industrial Production Index registered 139 and was headed downward; from all present indications the November 1958 figure should at least equal 139 and is definitely on the way up.

Although this important indicator fell 19 points in eight months during the '57-'58 recession, it has already regained over 60% of the decline. If it weren't for a number of recent strikes in key industries—especially automotive—the upturn would be higher still.

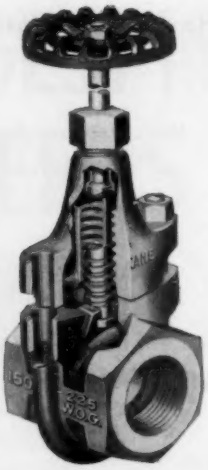
The Purchasing Magazine Business Confidence Index (based on P.A.'s opinion of the business outlook) **also presents a vivid picture** of the changed situation in the last year. From a mark of 62.0 in September 1957, it dropped sharply to 50.8 in January. Purchasing agents were cutting inventories, reducing orders, and feeling generally pessimistic about short-range business conditions.

But in February, P.A.'s were among the first to see signs of an upturn. Three months before the government's Industrial Production Index picked up in May, the Business Confidence Index started to climb. At present the Business Confidence Index is



The Federal Reserve Board's Industrial Production Index advanced one point in October to 138. The index has now risen 12 points from the recession low of 126 in April.





Crane all-iron inside screw clamp gate valves have a one-piece bonnet with an interrupted thread construction for stem thread engagement. This design provides a wiping action on the stem which prevents sticking in heavy or mildly corrosive fluid service. Sizes: ¼ in. to 4 in. Screwed or flanged ends.

Crane clamp gates end sticking valve problem . . . reduce down time and maintenance costs

This paper mill in the midwest had a problem with clamp gate valves that developed sticking stems after a short time. These valves were used on ammonia service in a coating mixture operation. They became difficult or impossible to operate with the stem extensions.

Two years ago the mill changed to Crane clamp gates. More compact, with shorter face-to-face dimensions, the Crane valves were easier to install in the closely confined area.

Since these Crane valves were installed, not a single case of sticking stems has been reported. (Description under the cutaway valve shown tells why.) Naturally, down time, maintenance and replacement costs have dropped to zero.

If any valves you are using on process fluids are giving trouble, they are cutting into your profits. On such problems, you can get help from your local Crane Representative, or write to address below for recommendations.

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Pulse of Business

almost 25 points above the September '57 low point and gives every indication of remaining at a high level. In the latest survey, however, the index dipped slightly. It's hard to tell whether this dip represents a random statistical variation or whether it's the first indication that P.A.'s are a little disappointed about the way the rate of economic recovery has slowed down recently (see p. 13).

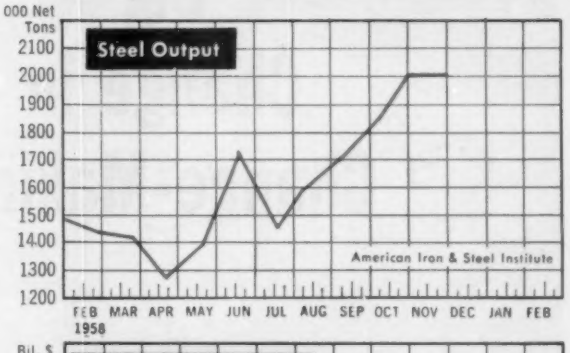
Reports from industrial trade associations are, of course, much more optimistic now than they were a year ago. For example, the American Steel Warehouse Association, representing 900 steel service centers from coast to coast, reports that shipments of steel from warehouses—for the first time this year—are at the fall 1957 level. This means purchasing executives are starting to put more steel to work on their company's production lines.

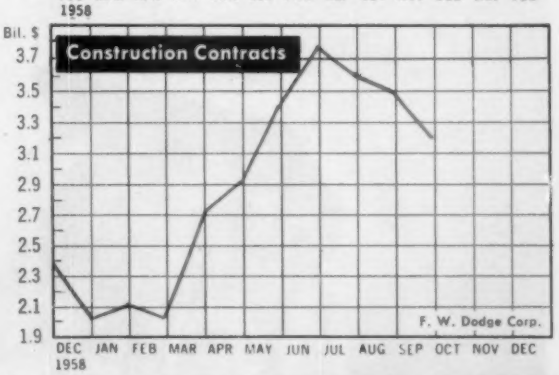
The automotive industry is also optimistic. When the auto makers introduced the '58 models last year they almost immediately felt the pinch of buyer resistance. As a result it's not expected that '58 sales will be much over the 4 million car level.

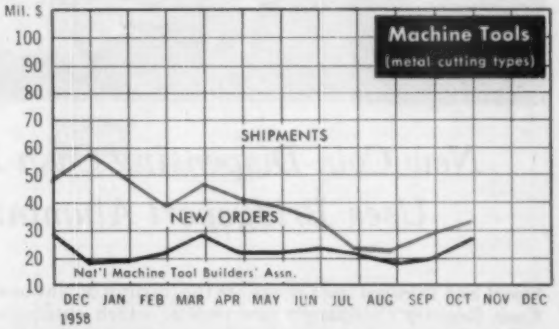
In contrast, dealers are now crying for more cars from the factories. Consumer demand for the '59 models has been heavy. Because of strikes and walkouts at the auto plants, the producers have been unable to keep up with demand. Jokes about uppity automobile dealers are even beginning to come back in fashion.

Of course, it's the last line on the balance sheet—the one that shows the profit figure—that really tells the businessman how he's do-

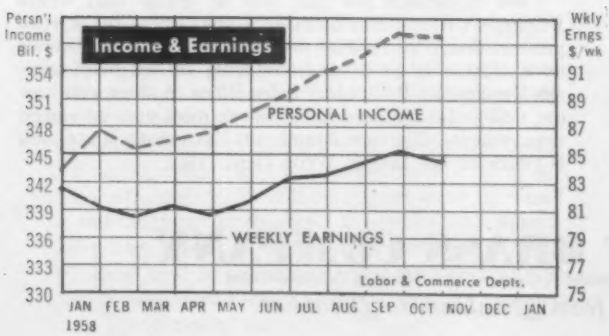
PRODUCTION

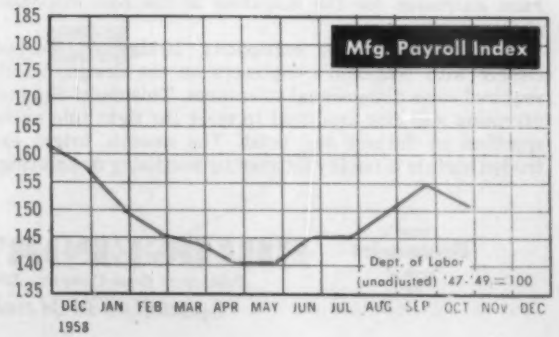






LABOR







New Coin-Dispensing Cash Register Uses Bridgeport Aluminum

Speed and freedom from errors are the features of National Cash Register Company's new register which automatically calculates change and dispenses the proper coins. Change-making becomes twice as fast as with conventional registers. To hold the coins and insure trouble-free operation, National uses a one-piece Bridgeport Aluminum Extrusion for the magazine of the coin dispenser shown to the right.

In furnishing these extrusions, Bridgeport worked closely with National's engineers on the design, which required close dimensional tolerances. This multi-channel extrusion was also produced to meet the tight tolerances specified on flatness and twist. The smooth, bright extruded surface is readily finished by anodizing or painting.



Coin dispensers are just one of many uses where Bridgeport Aluminum Extrusions are helping to improve product design and reduce manufacturing costs. If there's an extrusion in your manufacturing or design picture, ask the nearest Bridgeport Sales Office to show you how our skill and integrated facilities can meet your extrusion requirements. Our new Aluminum Extrusions Handbook is yours for the asking. Write Dept. 1513.

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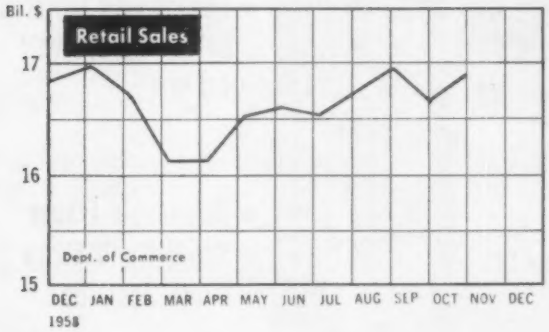
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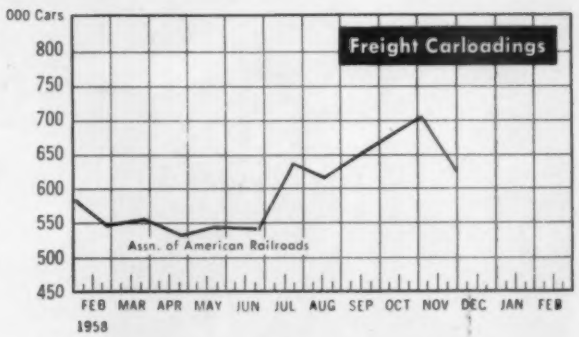
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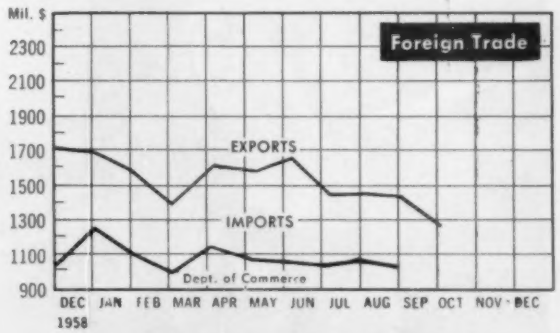
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TRADE







ing. And most corporations are showing greater profits now than they did in the same period last year.

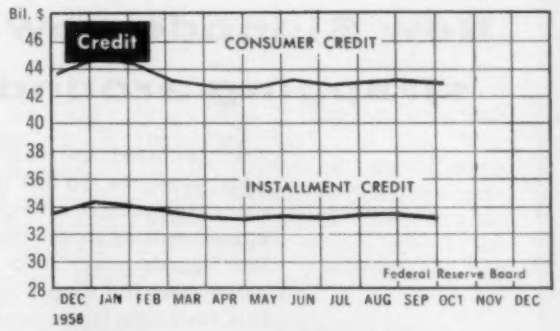
Corporate profits for the last quarter of 1957 were $38.8 billion. The first quarter of this year showed a further drop to $31.3 billion. Since then, however, profits have increased—to the point where the Business Advisory Council of the Commerce Department is predicting that last quarter 1958 profits will be around $40 billion dollars. This means more money will be available in '59 for research development, and capital expenditures.

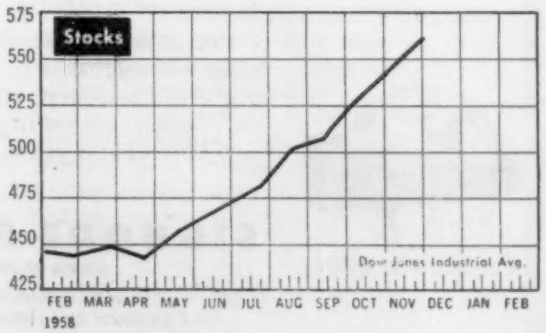
Other indicators at or near the high water mark are personal income, retail sales, and industrial stock prices. The stock market fooled a lot of people this year as it zoomed up in the face of many discouraging business reports. But the old saw about the market discounting good news in advance held true once more, as the economic recovery gained momentum through the summer and fall.

Economists are now trying to evaluate the significance of the latest break in stock prices. Does this break mean business won't be as good in 1959 as the extreme optimists were predicting just a few weeks ago. It probably does. Although there is little doubt that Gross National Product will reach a new high next year, there are also some dark clouds on the horizon. Employment hasn't bounced back as much as was expected, and there are some doubts about the outlook for capital expenditures.

So although 1959 will be a good year, it won't be one without problems for purchasing agents—by any means. Pressure for lower costs will continue and management will be reluctant to invest additional capital in inventory needed to support rising sales.

FINANCE







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- Adjustable Frame Support and Strap Chute Sections
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New Signode power strap feeder puts strapping around big packages fast

Another "stand and wait" job hits the skids! Now, for the first time, one man straps big packages without a helper and without walking around the package. The new Signode power strap feeder applies 200 or more straps per hour to big packages. Only eight to ten seconds are needed to apply one strap to the container above.

Cost of the equipment is modest, yet it handles a wide range of package shapes and sizes. Components are shipped ready for assembly, tailored to your needs. The new Model PSF-1 can be used with any Signode seal feed tool—hand, pneumatic, or electric—mounted in a tool balancer. Strapping may be fed either up or down. The feeder will take any one size of any kind of Signode strapping ¾" or smaller. Strap size adjustment is simple.

The PSF-1 Power Strap Feeder is simple and versatile. It can be inserted into almost any conveyor system or set up in a separate strapping station for unitizing.

For information about this important advancement in strapping speed and ease, call the Signode man near you, or write:

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The P.A.'s Outlook

- **P.A.'s Continue to Be Mildly Optimistic**
- **But Confidence Index Dips Slightly**
- **See Improvement in Fourth Quarter Profits**

IT COULD be a statistical variation. Or it could be the first sign that purchasing agents are a little less enthusiastic about the business recovery than they have been in the last five months. At any rate, PURCHASING Magazine's Business Confidence Index (based on a survey of several hundred purchasing executives) dipped for the first time in the last six months.

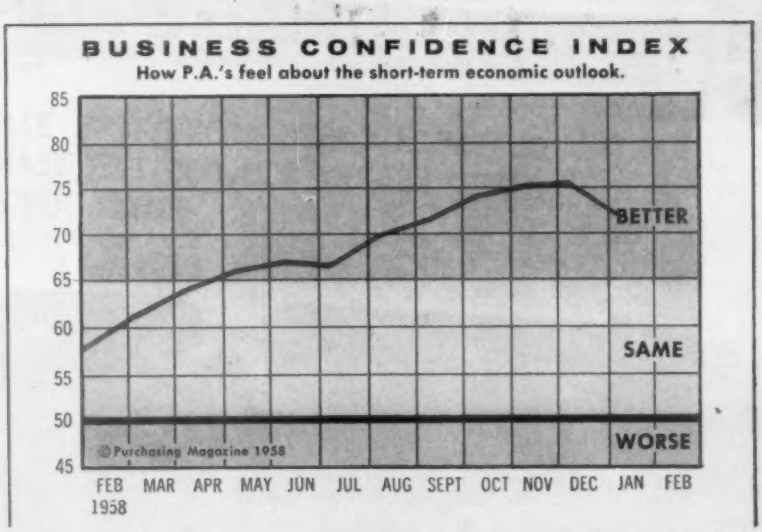
The composite view of the P.A.'s contacted continues to be a belief that business will be slightly better in the next three months than it is at present. However, there is slightly less conviction about this forecast than there has been in recent months.

"No Boom Coming"

If the drop of almost three points in the Business Confidence Index is really a trend and not just a random statistical variation, the P.A. who wrote: "We have finally taken off our rose-colored glasses. We now believe that 1959 will be a period of consolidation and slight improvement. No large boom is foreseen," may have accurately expressed the views of the majority of P.A.'s.

Breaking down the survey responses in detail, here's the picture—and it's still an encouraging one:

- 18.4% of the P.A.'s believe business will be "much better" in the next three months.
- 59.2% think it will be slightly better.
- 16.3% think business activity will continue at the present level.
- 6.1% believe it will be "slightly worse."
- None thought business would be "much worse."



Purchasing Magazine's Business Confidence Index dropped just less than three points this month after having been on the rise five months in a row. The slight dip in the index may be the first indication that P.A.'s are a little disappointed in the rate of the business pickup. However, there is no doubt that the majority of purchasing executives still expect business to improve during the next three months.

Local Associations Report

Reports from local purchasing associations all note a trend toward improved business. However, the Chicago association says that business fell somewhat short of the encouraging advances racked up in the previous month. It adds that it believes the firming pattern of the past three months is solidly based.

"It may well be," reports the Chicago business survey committee, "that the quickening pace of business now evident will bolster the profit situation when current operations are translated in terms of the fourth quarter P&L statement."

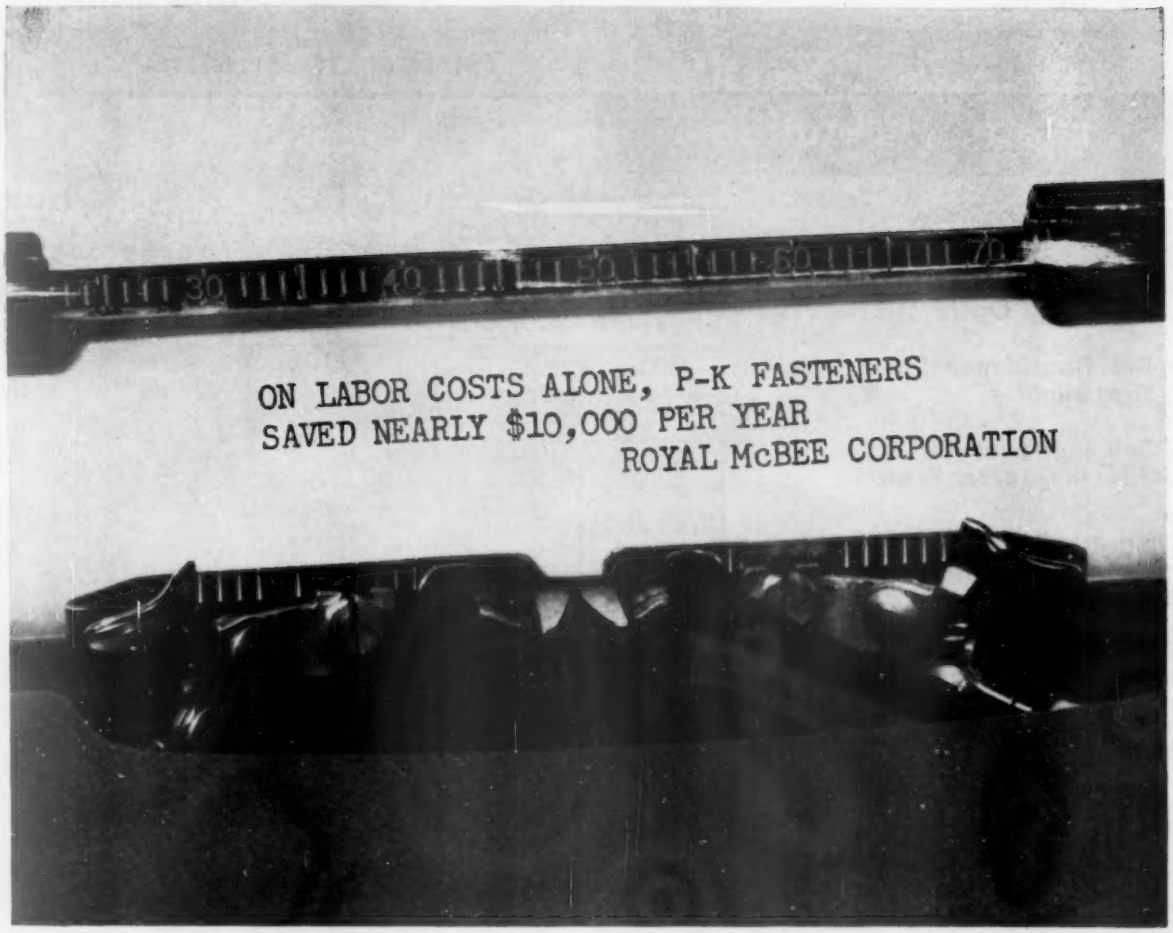
"Business, generally, is good and the slight upswing continues," notes the Cleveland association. "The optimism expressed for the last two months continues . . . backlogs are gradually building."

The Cleveland group says "purchasing personnel are generally optimistic." But it adds "inventories remain about the same while employment has dropped again."

New Orders Up

The Canadian association says that new orders reported "are a barometer of improved future business weather."

According to its survey, "inventories have begun to move in a higher direction, in sympathy with the forecast of new order and production improvement." But Canadian P.A.'s "are taking careful advantage of supplies available on reasonable lead time."



"For fastenings in steel, in plastics, and in die cast aluminum, we switched to P-K Self-tapping Screws and save time and money in every case," says Henry Teller, Supervisor of Assembly Standards, *Royal Typewriter plants of the Royal McBee Corporation.*

"At our Hartford plant alone, where more than 500,000 typewriters per year are assembled, we use P-K Self-tapping Screws for speedy, dependable fastening of Tenite plastic space bars, space bar stops and buffers, top covers and base masks, cover hinges and latches and many other assembly operations.

"Waste is ended, too. For example, just a bit too much pressure with air guns or the slightest angle when inserting ordinary screws, often caused stripping of the hole and a discarded space bar. Now, with P-K Screws, production is uninterrupted—rejections practically eliminated."

Royal McBee Corporation's experience with Parker-Kalon Self-tapping Screws is typical of literally thousands of similar cases. A P-K® Field Engineer will be glad to discuss your fastening applications—show you how you, too, can effect real savings.



PARKER-KALON® Self-tapping Screws

Sold everywhere through leading Industrial Supply Distributors

PARKER-KALON DIVISION, *General American Transportation Corporation, Clifton, New Jersey*

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Pulse of Business

Price Trends

- **Metal Markets Continue To Firm**
- **But Copper Shows Some Signs of Weakness**

THE last few weeks have seen a firmer tone in the ferrous and nonferrous metal markets. All signs point to an even further strengthening in most areas after the first of the year.

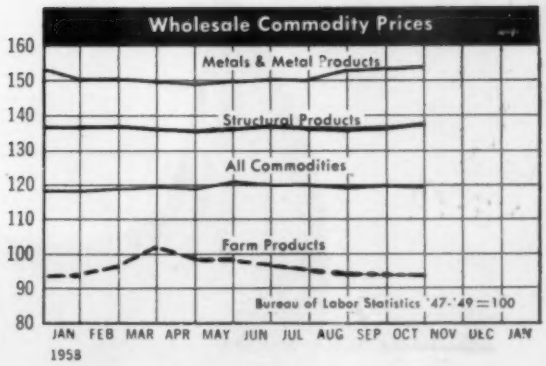
Here's the picture of some of the major commodities P.A.'s are buying:

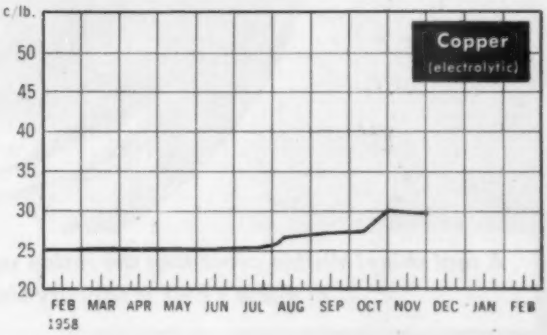
Copper: The copper outlook is extremely confusing. There were indications that the market was tightening. Prices have been firming in recent months and producers' stocks were dropping at a surprisingly fast rate. But late in November the tone of the market changed. The London price dropped, and in the U. S., custom smelters reduced their prices. Almost simultaneously, the British Board of Trade announced that it planned to release an additional 7500 tons copper from its stockpile. What makes the market even weaker is the fact that European demand has been easing recently. In addition, since the strikes in Northern Rhodesia are now over, supply of the metal has increased.

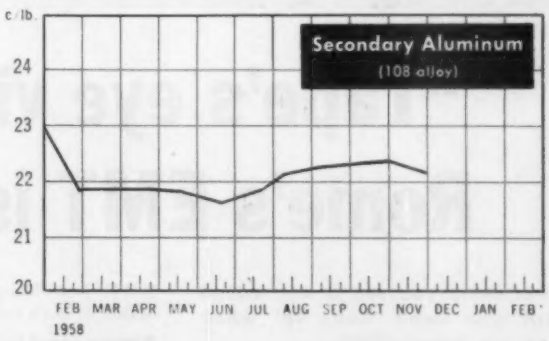
At present it's impossible to make an intelligent market forecast—even on short-range basis. Best bet for P.A.'s is to follow the market on a day-to-day basis.

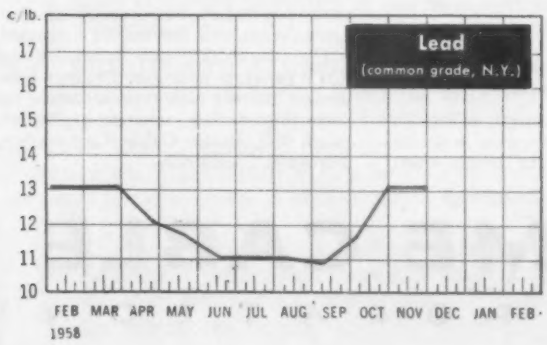
Lead: A stronger market developed for lead purchases last month. Purchasing executives placed a large number of orders with producers and custom smelters.

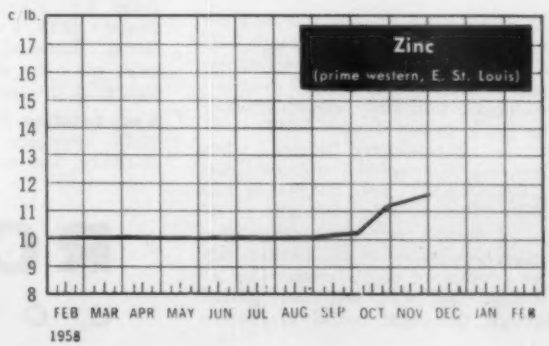
It looks as though no action will be taken on the international agreement to limit exports

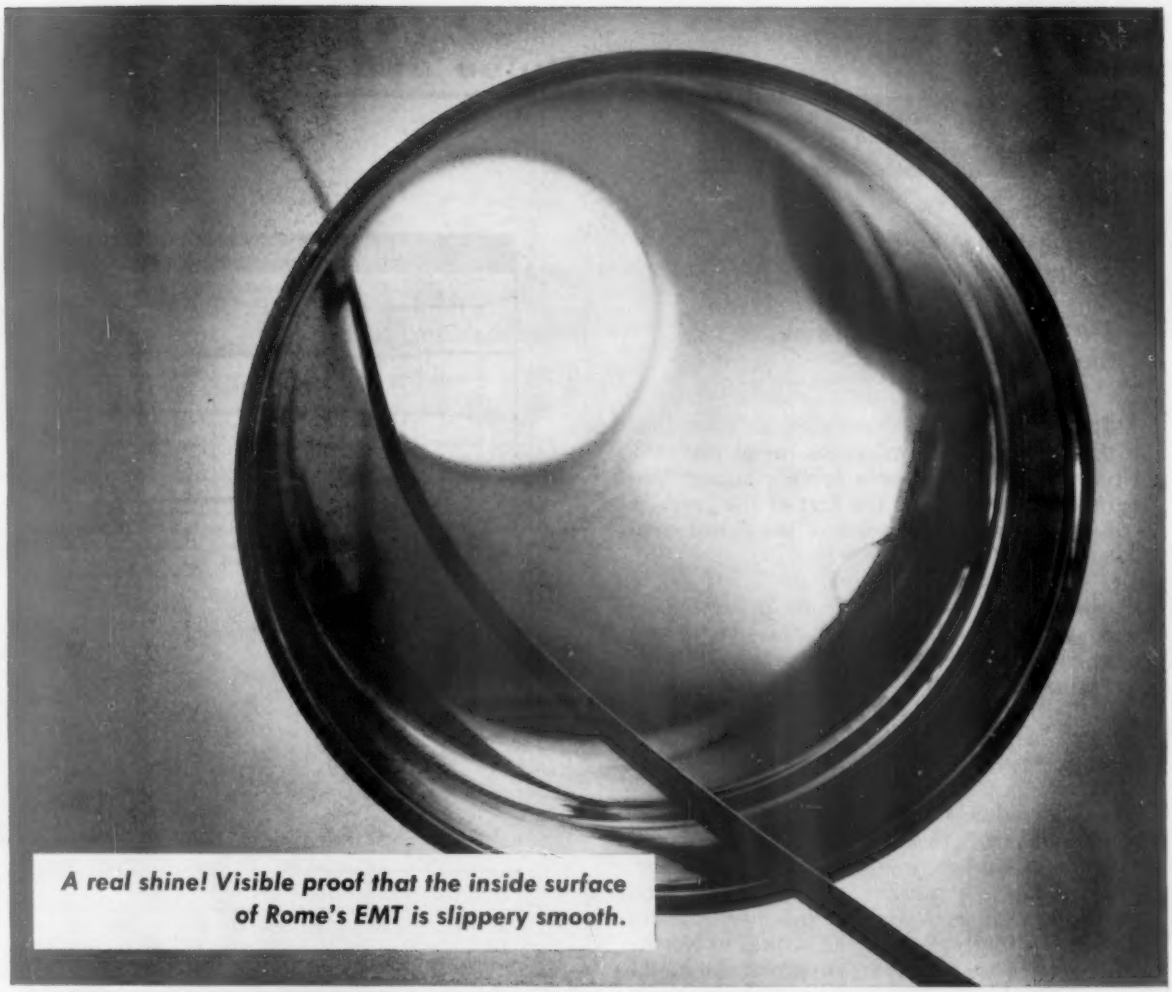












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"Tape's eye view" shows why Rome's EMT is easiest to fish

That shine you see is the reason fish tape won't "hang up" when you use Rome's EMT.

The slick interior finish of Rome's EMT lets your fish tape slide through with an absolute minimum of resistance. Careful baking—under rigid control—produces a uniformly smooth enamel-like finish inside Rome's EMT.

In a test conducted by the Anstice Company, a completely unbiased party, Rome's EMT came out first in fishability. Three ten-foot lengths of ½" EMT, Rome's and two competitive samples, were formed into identical figures containing eight bends. The ⅜" fish tape used in the test easily passed through the eight bends in Rome's EMT, but "hung up" on one of the bends in both competitive samples.

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Easy bending The strength of Rome's EMT interferes in no way with its ductility. You can make bends—even intricate ones—quickly and easily.

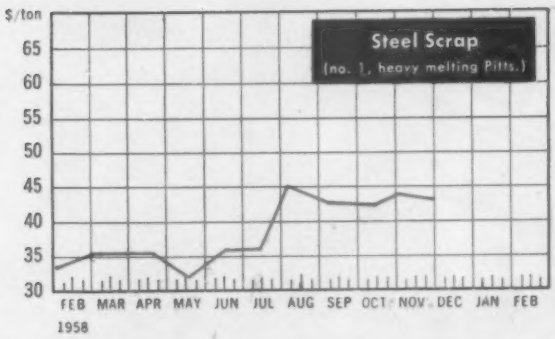
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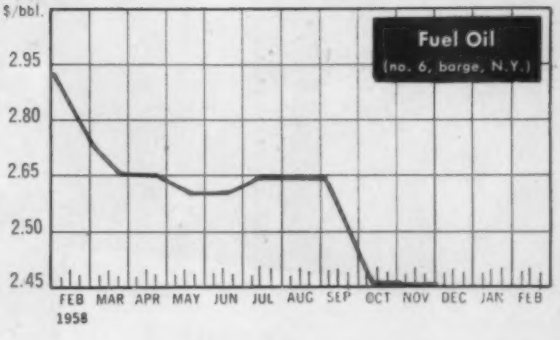
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Price Trends





until the United States modifies its quota program. The revival of the barter operation, announced recently, may be the very thing that will stimulate new arrangements by lead producing nations.

Zinc: The supply of special high grade zinc has tightened up in the last few weeks. If this situation continues, it may eliminate the price concessions that purchasing men have been able to get from vendors soliciting business for this grade.

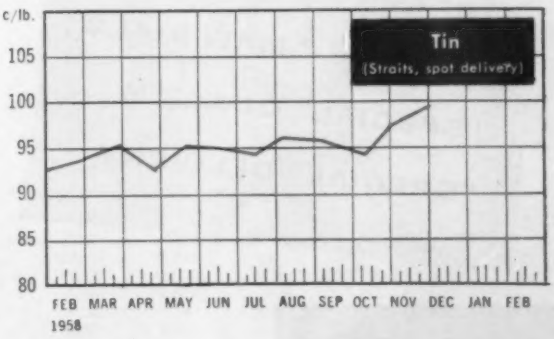
A modest number of inquiries from P.A.'s regarding the galvanizing grade of prime western has been received by vendors recently. But this hasn't yet built up into any major buying operation by purchasers.

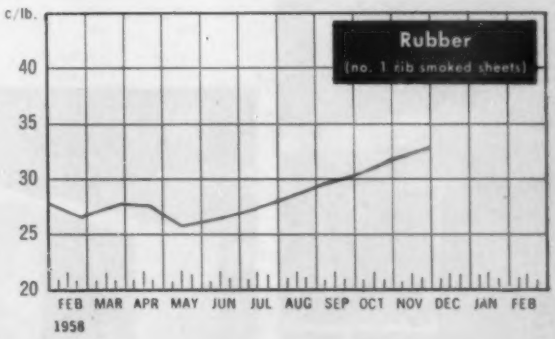
Tin: The tin market turned bullish last month. Most quotations on the London Metal Exchange were higher.

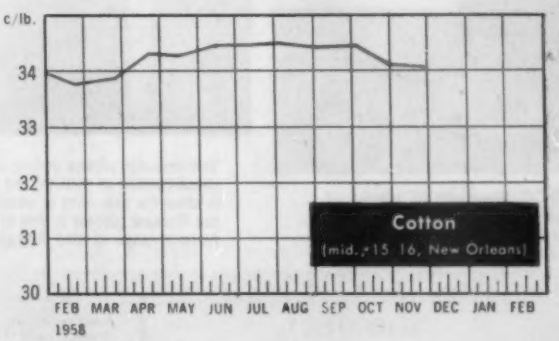
Tin is another of the 26 items approved by the Agriculture Department for the new barter arrangement. It is still unclear, however, how this bartering program can be worked into the already existing framework of the International Tin Agreement.

Steel: Purchasing agents for metalworking plants have been buying steel for current requirements. But they haven't started to rebuild their heavily depleted inventories in any great measure. The reason: P.A.'s feel it's not necessary because there is still so much excess steel mill capacity.

Mills are currently operating around 75% of capacity. Even though there's increasing talk about a strike in June buyers are not making hedge purchases as yet.







"SPECIAL" Welding Fittings

by MIDWEST

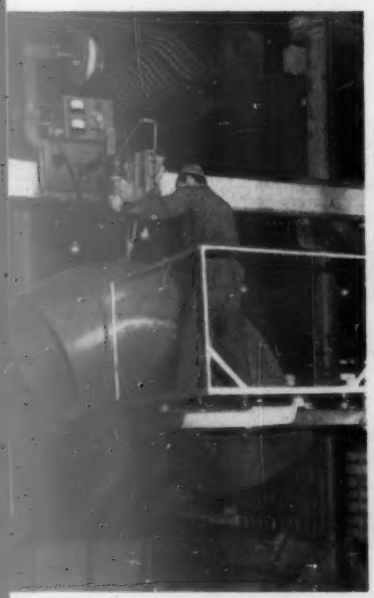


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"SPECIAL" QUALITY
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Special gauges and instruments are used to make sure that we have complied with the extremely close tolerances often required on stainless fittings. Here wall thickness and concentricity were held within extremely close limits throughout the fittings.

The exclusive Midwest method of manufacture—much more versatile and flexible than any other—enables us to make almost any type of special welding fittings to the most rigid specifications. Midwest makes welding fittings from *plate* . . . usually much easier to get than pipe, particularly if the material is special. That expedites delivery. Closer tolerances are inherent in the Midwest process, and quality control is always beyond code requirements.

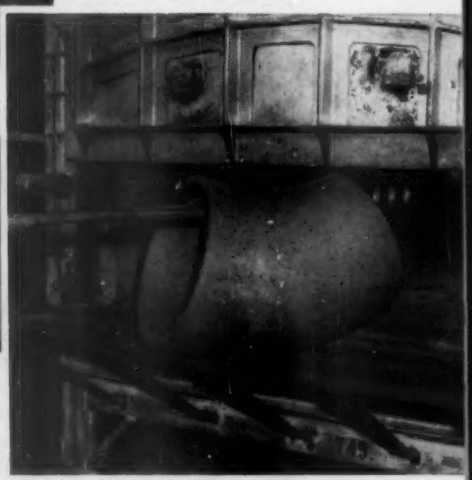
Even if you use only standard fittings, the exceptional quality of Midwest fittings can be important to you. Ask your Midwest distributor or write us for new Bulletin 5801.



36" O.D. 90° elbow with 16" tangent on one end being welded by an automatic submerged arc machine. Material is A-201 carbon steel.



Stainless-clad elbows undergoing ultrasonic inspection to check bonding of material and quality of weld. Since plate is often the only form in which clad material is available, the Midwest process is able to produce the most comprehensive range of clad fittings—and to do so promptly.



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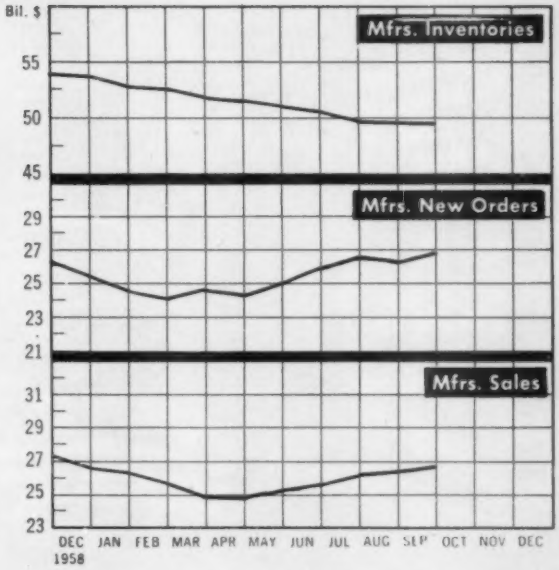
Sales, Inventories, Orders

• No Signs of Inventory Buildup; Stock-Sales Ratio Dips

The trend in manufacturers' new orders, sales and inventories continues to follow the same pattern that started last summer. Sales are up (still following the 1% per month increase trendline); new orders are rising and equal the year-ago volume for the first time since March '57. Inventory cut backs continue, but again the rate of decline has slowed.

Have Two-month Inventory

As a result of inventory parings, the factory stock-to-sales ratio is down to 1.8 months, according to the latest available figures. In other words, at the current sales rate, manufacturers could continue to fill their orders out of the inventories they have on hand for 1.8 months. This is slightly under the comparable same-month year-ago figure.



Dept. of Commerce—Seasonally adjusted

	1957		1958			
	Aug.	Sept.	June	July	Aug.	Sept. (p)
Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)						
All Manufacturing Industries	26,638	28,215	25,747	26,284	26,388	26,639
Durable-goods industries	14,297	14,132	12,086	12,256	12,385	12,561
Primary metal	2,362	2,182	1,854	1,917	1,984	2,020
Fabricated metal	1,520	1,547	1,397	1,454	1,482	1,528
Machinery	4,281	4,314	3,780	3,808	3,817	3,984
Transportation equipment	3,448	3,407	2,610	2,550	2,582	2,547
Lumber and furniture	925	940	822	836	832	848
Stone, clay, and glass	708	668	645	676	657	690
Nondurable-goods industries	14,341	14,083	13,661	14,028	14,003	14,078
Food and beverage	4,357	4,278	4,357	4,371	4,373	4,346
Tobacco	354	378	382	390	372	388
Textile	1,072	1,040	1,025	1,061	1,077	1,053
Paper	915	932	903	937	941	957
Chemical	2,008	1,951	1,899	1,979	2,003	2,046
Petroleum and coal	2,920	2,803	2,682	2,806	2,787	2,858
Rubber	514	481	445	478	438	n.a.
Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	54,203	54,166	50,246	49,777	49,425	49,250
Durable-goods industries	31,742	31,820	28,528	28,311	28,066	28,051
Primary metal	4,326	4,344	4,169	4,122	4,110	4,078
Fabricated metal	3,151	3,123	2,844	2,814	2,777	2,766
Machinery	10,609	10,658	9,446	9,323	9,221	9,089
Transportation equipment	8,035	8,049	6,595	6,584	6,536	6,774
Lumber and furniture	1,872	1,877	1,776	1,773	1,742	1,733
Stone, clay, and glass	1,210	1,251	1,234	1,228	1,220	1,207
Non-durable goods industries	22,461	22,346	21,718	21,466	21,359	21,199
Food and beverage	4,805	4,684	4,761	4,706	4,638	4,596
Tobacco	2,024	2,000	1,859	1,836	1,838	1,842
Textile	2,649	2,631	2,572	2,550	2,524	2,489
Paper	1,429	1,410	1,435	1,413	1,418	1,398
Chemical	3,737	3,741	3,747	3,722	3,734	3,721
Petroleum and coal	3,517	3,597	3,348	3,314	3,274	3,283
Rubber	1,074	1,074	986	980	1,024	n.a.
Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)						
All manufacturing industries	27,325	26,565	25,785	26,450	26,096	26,734
Durable-goods industries	13,160	12,519	12,245	12,512	12,177	12,597
Nondurable-goods industries	14,165	14,046	13,540	13,938	13,979	14,137

(r) Revised. (p) Preliminary.

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Your shipment moves swiftly to almost anywhere in the world—with unified *one-carrier* responsibility all the way. You get door-to-door delivery at no extra charge within REA vehicle limits in the U.S.A. . . . and special low rates on many commodities. Next time you want safe, swift, sure shipping—call Railway Express!

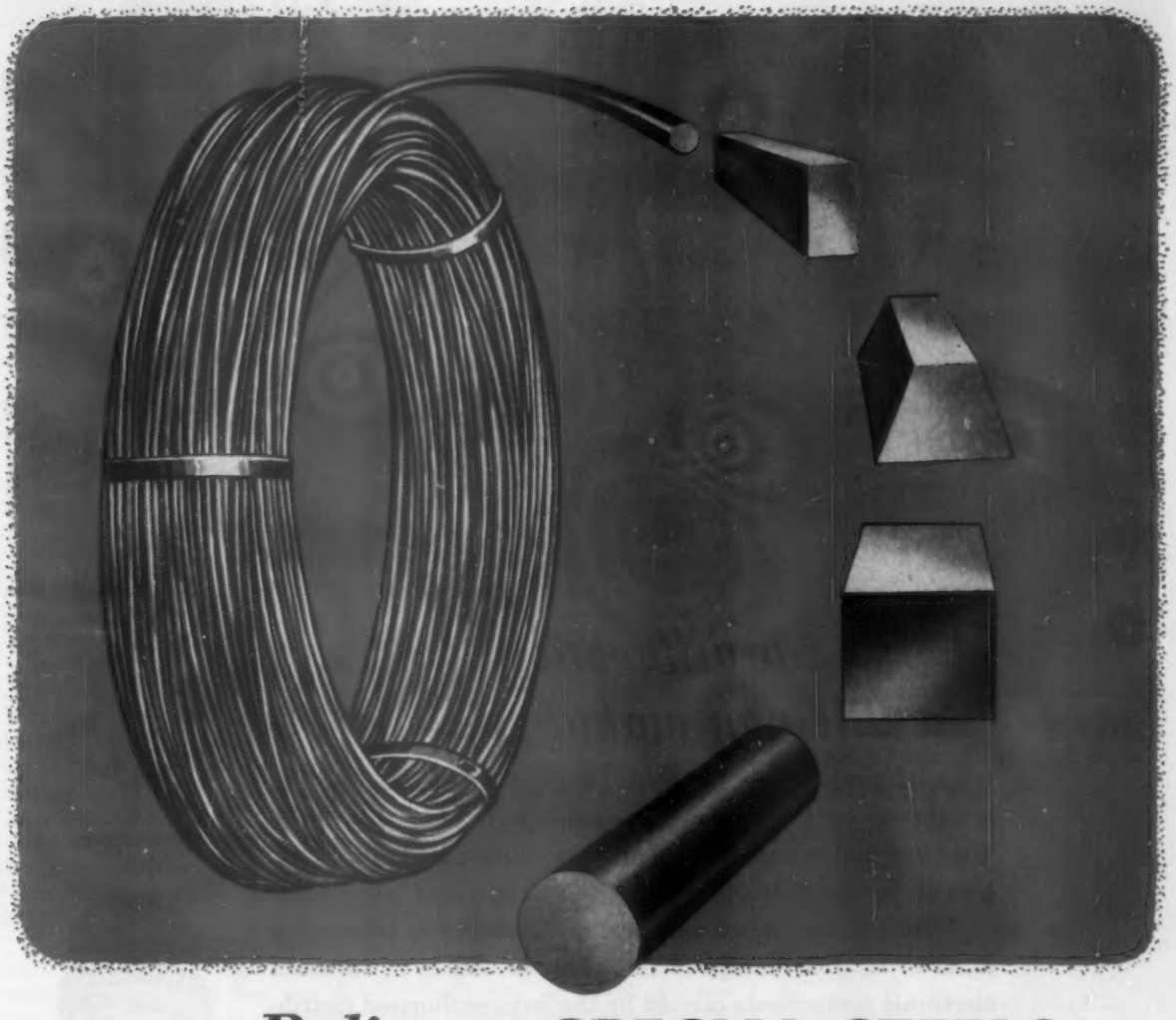
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Our steel mill produces ball and roller bearing quality, key stock, cold heading quality spring steel whose surface tolerance, physical specifications and machineability must meet specific requirements. Let us help cut your production costs with fine quality steel. Write for further information.

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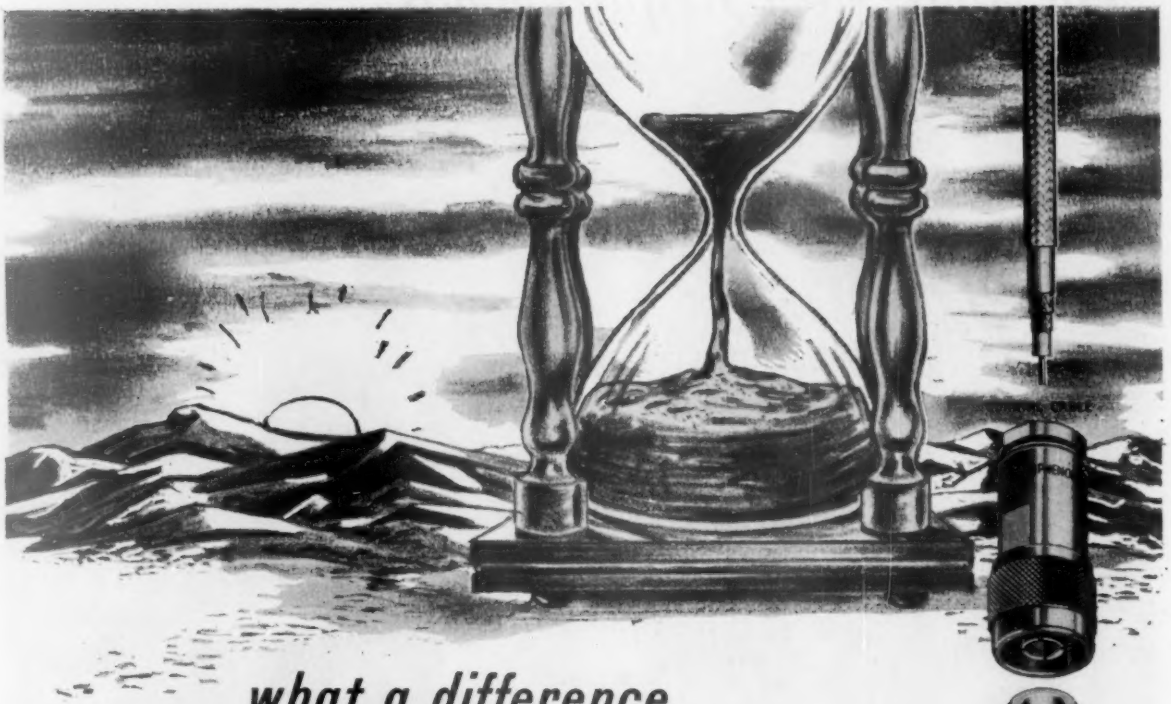
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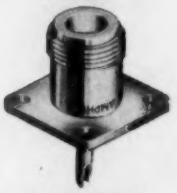


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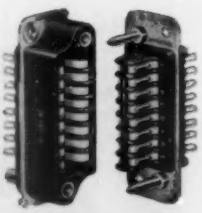
AMPHENOL's Authorized Distributors, for example, stock complete selections of standard AMPHENOL components, as well as many of the other leading component manufacturers' products. For rush requirements, or for convenience's sake, on your next moderate quantity component needs contact your local Authorized AMPHENOL Distributor.



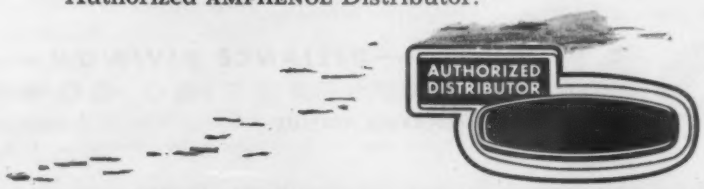
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Washington Report

• Xmas Retail Buying Will Boost Upturn

CONSUMERS WILL give a final decisive blow to the recession during the next two weeks in a holiday buying spree that will empty sellers' shelves. This prediction comes from authoritative government economic analysts.

The forecast is based on the high level of personal income, now at a $357 billion per year level. The general climate of thinking among buyers is that there is no valid justification for hoarding money at the present time.

If the analysts are correct, inventory policy will be affected. The immediate result will be the need for retailers to restock. This in turn will influence inventories at the manufacturing level.

The economy has already regained a large part of the decline registered in the recession. Third quarter gross national product was $439 billion (annual rate). The figure in the first quarter—the low point of the '57-'58 period—was $425.8 billion. However, the GNP is still below the high of $445.6 billion in the third quarter of 1957.

Plant and equipment investment will also increase. Government forecasters feel that the increase will be modest, however, with the greatest emphasis on new equipment rather than new factories.

Industry and banking sources claim that the government outlook is much too conservative. They feel that industry will increase its spending in 1959 for both plant and equipment.

• 1959 To Be Boom Year For Construction

The most positive—and most optimistic—forecast for '59 is for the construction industry.

A combined forecast from the Department of Commerce and the Department of Labor sees spending for new construction at a record high of $52.3 billion next year. This is an increase of 7% over the current year.

Some of this—roughly 4%—will be inflation of course. But the rest will be an actual increase in physical volume.

Public spending will provide the big push for the new building boom. In this segment, highway construction will be the biggest item.

There are some question marks, however, in this forecast. First, while construction will pull ahead of other goods and services, the heart of the building boom depends on overall improvement in the economy. Thus commercial construction will pick up—new stores, restaurants, garages will be built—but only if business is confident that everything is moving along smoothly.

Another "if" is in the home building area. The question here is the availability of mortgage money—which is largely dependent upon government policy.

The general thinking in Washington is that the Congress, with its new liberal makeup, will not let the supply of mortgage money for housing wither.

• Most Prices Will Hold At Current Levels

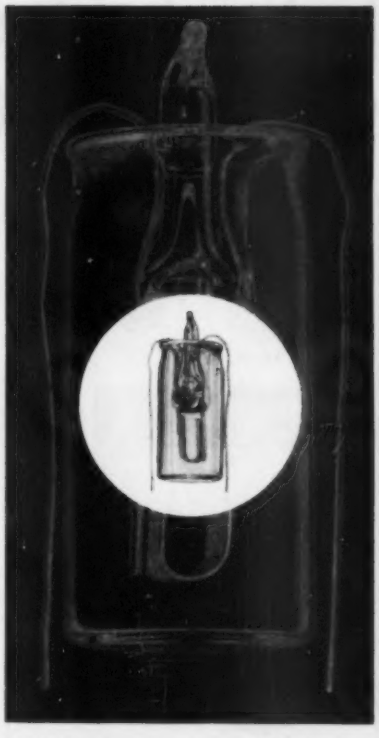
Assuming that the government forecasts can be taken as economic gospel, there is a question as to what effect the predicted rosy business conditions will have on prices.

The picture is somewhat clouded here. However, the overall view is that price structures will hold steady. Some increases are expected, but no real sharp boosts.

The big unknown is how the steel industry wage negotiations will work out. The industry only took part of the price increase it claimed as its due as a result of the automatic wage hikes last summer. Therefore, there will be less inclination for steel companies to absorb whatever increases may be granted in negotiations next year.

On the other hand, the steel unions will undoubtedly be push-

(Turn Page)



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. . . to assure you top performance from General Electric Starters

The glow-lamp switch is the heart of a fluorescent lamp starter . . . important to you because its proper operation helps assure dependable starting and maximum lamp life. That's why, in the case of G-E *Starters*, General Electric turned to its famous Lamp Laboratory for development of this critical component.

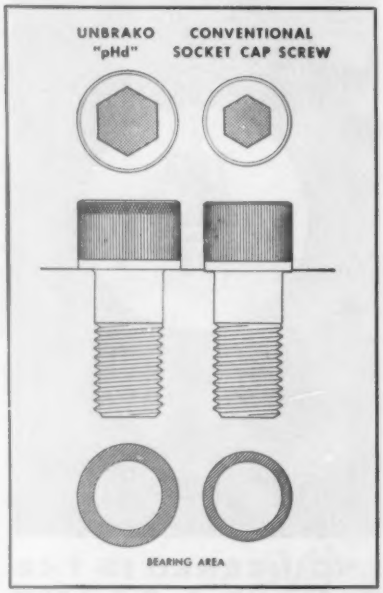
The G-E glow switch (above) is carefully designed to protect lamp filaments by assuring proper pre-heating, and to start the lamp on a precise schedule. Its contacts always open "fast and clean" to induce starting voltage . . . neither too late nor too soon.

The high-quality G-E glow-lamp switch is one of the important reasons why G-E starters are your wisest choice for dependable starting and maximum lamp life. General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

GENERAL ELECTRIC

For More Information Write No. 168 on Inquiry Card—Page 32

Extra holding power, no extra price, with UNBRAKO *pHd** socket cap screws



***pHd stands for "proper head design"—a factor in higher product reliability**

Enlarged head diameter, without change in head height, increases usable fastener strength as much as 134%, provides as much as 233% more holding power. The greater clamping force achieved with the new UNBRAKO pHd means longer fastener life under dynamic loads, offers the following advantages:

- Miniaturization. Space and weight-saving through use of smaller diameter or fewer screws. The 170,000-190,000 psi of these fasteners can be used to greater advantage.
- Reduction of fatigue failures. pHd allows consistently higher preloading, a major factor in lengthening the fatigue life of threaded fasteners.
- Fewer loosened threaded fasteners under shock or vibration.
- Eliminates washers under the heads of cap screws where they are used to increase the effective bearing area.
- Minimizes effect of oversized holes on the head-bearing area.

The head diameter, enlarged on 5/16, 7/16, 9/16‡, 5/8, 3/4, 7/8 and 1 in. sizes, also prevents the screw head from indenting the material being assembled—a fault that normally reduces, and sometimes completely loses, the vital preload or tensile stretch that keeps the screw tight and prevents fatigue failure. pHd also provides room for a bigger socket, which permits tightening to higher recommended preloads.

COMPARISON OF UNBRAKO pHd AND CONVENTIONAL DESIGN

Each size can now be utilized with equal reliability. The bearing stress is consistent from size to size in the new UNBRAKO pHd socket cap screws.

SCREW SIZE	HEAD DIAMETER (in.)		BEARING AREA (sq. in.)		LOAD TO INDENT IN CAST IRON (lb.)		% INCREASE USABLE STRENGTH	TIGHTENING TORQUE (lb.-in.)†	
	Old	pHd	Old	pHd	Old	pHd		Old	pHd
1/4	.375	.375	.041	.041	3,280	3,280	—	165	180
5/16	.438	.468	.047	.072	3,760	5,760	54	325	360
3/8	.562	.562	.102	.102	8,150	8,150	—	600	660
7/16	.625	.656	.116	.148	9,270	11,800	27	1,000	1,040
1/2	.750	.750	.188	.188	15,000	15,000	—	1,450	1,590
9/16‡	.812	.843	.209	.247	16,700	19,700	18	2,050	2,270
5/8	.875	.937	.203	.305	16,200	24,400	51	2,900	3,190
3/4	1.000	1.125	.223	.432	17,800	34,600	94	5,050	5,600
7/8	1.125	1.312	.254	.594	20,300	47,500	134	8,000	8,900
1	1.312	1.500	.364	.785	29,100	62,800	116	10,550	13,600

†Normal recommended seating torques for unplated screws, fine threads

‡Available as a special only (listed for dimensional data)

High Reliability

SPS research is continually developing fasteners with higher and higher standards of predictable performance. By installing SPS high reliability fasteners in your assemblies, you increase your overall product reliability.

"High Reliability" is a booklet just published by SPS. Write for your copy today.

The new UNBRAKO pHd socket head cap screw is now available through all authorized industrial distributors at no increase in price. Specify UNBRAKO pHd when ordering. For technical data and specifications, send for Bulletin 2406. Unbrako Socket Screw Division, STANDARD PRESSED STEEL CO., Jenkintown 31, Pa.

We also manufacture precision titanium fasteners / write for free booklet

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For More Information Write No. 169 on Inquiry Card—Page 32

ing hard for a wage increase that will top the recent auto workers' pay boost. United Auto Workers chief Walter Reuther was able to get his members a 2½%-a-year increase, based on anticipated increases in productivity in the auto industry.

Observers believe that Steelworker President Dave McDonald is "on trial" before his membership, and that he will have to pull a bigger rabbit out of his hat than Reuther did. This has led to speculation that a deadlock is in the making and there might well be a strike. But there is little indication that purchasing agents are actually building up inventories now in anticipation of supply headaches in mid-summer. The higher operating rate in steel at present is based solely on actual chew-up of the metal.

• Gov't Pushes Stronger Aid For Foreign Traders

Department of Commerce trade officials are advocating a drastic strengthening of our foreign commercial service, so that American business can find more markets and sources of supply.

This additional government aid would tend to counter the growing Soviet position in world trade. The Russians have shown considerable strength in barter deals, where government-to-government negotiations are most effective.

To compete, U. S. businessmen will need greater support by their government—in the form of trade information and sales aid. They'll also need some kind of United States guarantees in the collection of export credits.

In evaluating the Soviet as either a market or supply source, the Department of Commerce warns that it is not clear just how much business is possible with them. Many U. S. and other free world firms have received inquiries about selling "know-how" and specialized equipment to Russia, but these inquiries have been widely broadcast also to competing sources in the West.

—A. N. Wecksler



SAVE WHEN THE HEAT IS ON

This 20 pound Ni-Resist casting made for the Schwitzer Corporation by Hamilton Foundry is the turbine casing of a diesel engine turbocharger. Exhaust gases which turn the impeller at speeds up to 90,000 rpm subject the housing to rapid cyclic temperature changes up to 1500° F. Any free scale formed at these temperatures could erode and eventually destroy the impeller blades. Ni-Resist was chosen for this part because it produces practically no free scale, it resists growth and oxidation at high temperatures, and it resists cracking under thermal shock.

Unit production costs are lowered by finding and using the most efficient material available. In this case, Ni-Resist castings combine design flexibility and machinability with long service life under severe temperature stresses. Ni-Resist castings from Hamilton Foundry have dimensional accuracy, uniform machinability, fine surface finish, a low rejection rate, and are delivered on schedule—a combination of factors which lower unit costs and insure Schwitzer's reputation for product quality.

When new and unusual design problems arise in the selection of metal and the casting of parts, you will find that the skill and integrity of your foundry is your best insurance that specifications—and delivery schedules—will be met.

GRAY IRON • ALLOYED IRON • MEEHANITE ® • DUCTILE (NODULAR) IRON • NI-RESIST • DUCTILE NI-RESIST • NI-HARD

HAMILTON FOUNDRY

The Hamilton Foundry & Machine Co., 1851 Lincoln Ave., Hamilton, Ohio • TW 5-7491
For More Information Write No. 170 on Inquiry Card—Page 32



You can always depend on prompt delivery of U.S.I. alcohol from one of these warehouse points

When U.S.I. is your supplier of alcohol, delivery is always prompt—for this reason: U.S.I. maintains a nationwide network of bonded warehouses. Chances are, one of these warehouses is within less than a day's delivery of your plant.

In addition, long experience in supplying alcohol enables U.S.I. to offer you helpful assistance in handling alcohol paperwork—permits and records. U.S.I. technical assistance, too, is based on long experience in all applications for alcohol.

With dependable U.S.I. delivery and service you can avoid fluctuations in your alcohol stock . . . tie-up of valuable storage space . . . needless complication of inventory records . . . the hazard of being caught short when you have a major emergency need.

U.S.I., America's oldest and most experienced producer of hospital and industrial alcohol, has been serving industry for more than half a century.

Specify U.S.I. alcohol . . . high in purity . . . prompt in delivery.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

For More Information Write No. 171 on Inquiry Card—Page 32



No matter what you make from Cold Rolled Steel

An ALAN WOOD Representative can help!

Thinking of making a Bi-Plane-O-Car? You might find a terrific market for this all-in-one get-about. But you might find unusual production problems, too. Better call your A.W. Representative *before* you start to produce. Your A.W. Representative may order a special metallurgical study of your problems and bring about savings that build new profits and increase production. He can provide you with the latest information on cold rolled steel and its application, plus experienced advice on the gauge, size and type to order. Call him today. Your A.W. Representative is always available . . . never out of touch with your location.

ALAN WOOD STEEL COMPANY

steelmasters for more than a century and a quarter • CONSHOHOCKEN, PA.

DISTRICT OFFICES AND REPRESENTATIVES: Philadelphia New York • Los Angeles • Atlanta • Boston • Buffalo • Cincinnati Cleveland • Detroit • Houston • Pittsburgh • Richmond • St. Paul San Francisco • Seattle

Montreal and Toronto, Canada—A. C. Leslie & Co., Limited

IRON PRODUCTS
"Swede" *pig iron*

STEEL PRODUCTS
Plates (sheared)
A.W. Dynalloy (high strength steel)
Hot rolled sheets
Hot rolled strip
Cold rolled sheets
Cold rolled strip

ROLLED STEEL FLOOR PLATE
A.W. ALGRIP *abrasive*
A.W. SUPER-DIAMOND *pattern*

COAL CHEMICALS

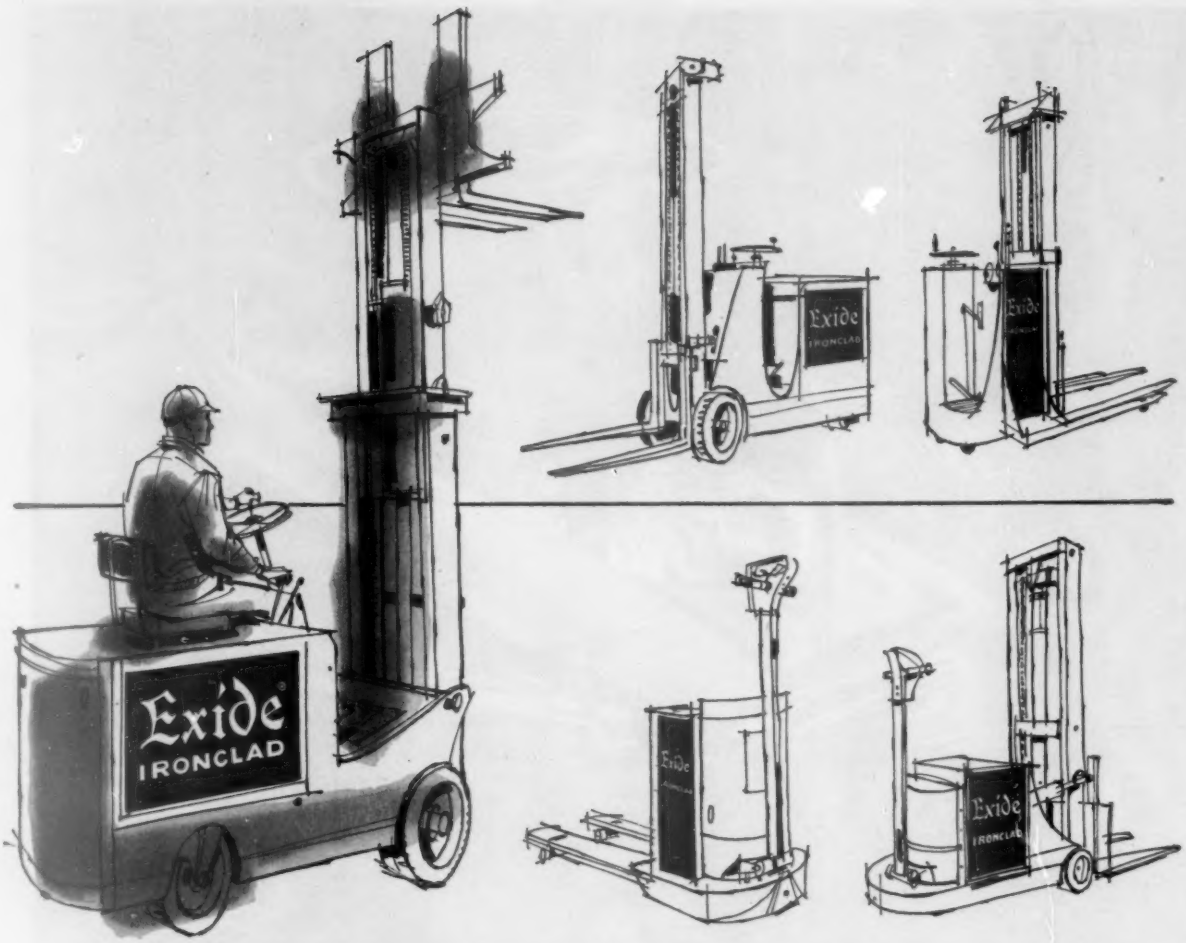
A.W. CUT NAILS
Standard & Hardened

MINE PRODUCTS
Iron ore concentrates
Iron powder
Crushed stone
Sand

COKE
Foundry, industrial & metallurgical

PENCO METAL PRODUCTS DIVISION
Steel cabinets, lockers & shelving

For More Information Write No. 172 on Inquiry Card—Page 32



Now every electric industrial truck can

DO MORE WORK, COST LESS TO USE

New, more powerful Exide-Ironclad Batteries now available in sizes to fit *all* trucks

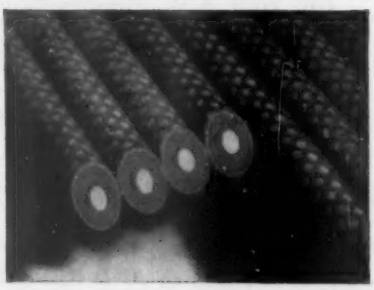
Take any electric industrial truck. Install one of the new higher capacity Exide-Ironclad Batteries and you can get more work out of it at a lower annual cost than you ever did before.

They pack up to 44% more power than batteries in the past. But these new Exide-Ironclad Batteries have the same outer dimensions . . . fit right into your present trucks . . . provide added power so your trucks can lift more, carry it farther, move it faster, make more trips. Yet they actually cost you less per ampere-hour and offer a longer life potential for greater long-range economy.

Save money, too, on applications where you don't need additional power. New Exide-Ironclad Batteries are available in the same capacity as old batteries, but in a more compact size and up to 15% lighter for greater flexibility and at a lower price.

When you buy batteries for your electric industrial trucks, make sure you get all the economy only the new Exide-Ironclad Batteries can offer you. Write for complete details. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®



Here's the secret. Unique advanced tubular construction. Every positive plate packs more power. So every battery gives you greater efficiency—a more compact battery for a given capacity rating.

For More Information Write No. 173 on Inquiry Card—Page 32

FAFNIR ANNOUNCES NEW, MODERN, COST-CUTTING DESIGNS IN SEALED BALL BEARING PILLOW BLOCKS!



LSA Standard Duty

LSAO Heavy Duty

Protection, economy, design-appeal featured in new LSA and LSAO standard and heavy duty units

Introduction of Fafnir LSA and LSAO pillow blocks opens new opportunities for improving both machine performance and styling, and reducing costs in standard and heavy duty applications.

Equipped with integral seal, wide inner ring ball bearings, the units are positively protected against contaminants and loss of lubricant. Fafnir-originated self-locking collars permit fast, easy, cost-cutting installation. Moreover, though the new series are made to the same base-to-center height dimensions and bolt-hole spacings as corresponding sizes in Fafnir's SA and SAO series, they are available at lower initial cost.

Housings are solidly built and of massive, streamlined design to harmonize with modern machine styling. All units are prelubricated and have provision for relubrication, if necessary . . . come ready to mount . . . and are designed to take radial, thrust, or combined loads in any position. Write for new bulletin showing sizes, dimensions, types, features. The Fafnir Bearing Company, New Britain, Connecticut.

FEATURES

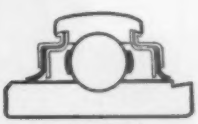
Positive Protection — Slinger-type Mechani-Seals for protection at higher speeds; contact-type Plya-Seals for slow-to-moderate speeds, dirty or wet conditions.

Extra-Sturdy Support — Wide Inner Ring Ball Bearings with deep grooves and large balls for sturdy shaft support.

Simplest Installation — Fafnir-originated eccentric cam self-locking collar provides positive locking to shaft with twist of wrist. No machining, no mounting devices.

Self-Alignment — Spherical bearing O.D. and corresponding spherical housing seat assure self-alignment in any direction.

Modern Styling — Smoothly finished, streamlined, massive cast iron housing with machined bearing seat and base.



Plya-Seal

Integral Seal Ball Bearings



Mechani-Seal

FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

Bearings in LSA units are Mechani-Seal type — or available optionally with Plya-Seals (RSA). LSAO series bearings are Mechani-Seal type, except those for shaft sizse 3 3/16", 3 7/16", and 3 15/16", which have Plya-Seals (RSAO).

integrated CRUCIBLE steel service



Crucible inside account salesmen (1) simplify ordering and expedite deliveries of the steels you need, (2) arrange for handling extra services, (3) supply you with basic steel and metalworking data.

staffs 31 local warehouses with specialized personnel to solve your specialty steel problems

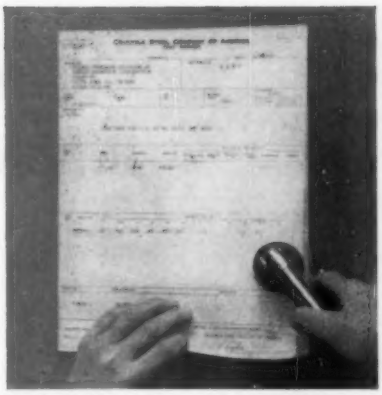
"We frequently rely on Crucible warehouse people," says one of our good customers. "We've found they can sometimes show us more economical steels, sizes and methods than those we're using. Furthermore, they give us valuable help with steels we're using for the first time."

This steel buyer, like thousands of others, believes in getting services with the steels he buys. Here's what he gets:

Crucible inside account salesmen help him simplify ordering, speed up his deliveries. They can efficiently arrange for extra services, such as forging, slitting, grinding and polishing, because of their special training at Crucible mills.

Crucible sales-service engineers give their production and toolroom people valuable metalworking assistance. They'll recommend machining speeds and feeds, quenching temperatures, the best forming and joining methods.

Behind these specialists are the resources of Crucible's entire, integrated operation – from mining the ore to steelmaking to warehouse delivery to you. Why not take advantage of these services each time you order specialty steels? They're available through every Crucible warehouse. *Crucible Steel Company of America, Dept. PL13, The Oliver Building, Mellon Square, Pittsburgh 22, Pa.*



Need certified test reports for government work? Warehouses can supply the steels and notarized reports of analyses.



Trained, experienced sales-service engineers can help your engineers use steels that are new to you.



This is the easiest way to arrange for forging, flame-cutting — have the warehouse accommodations service do it for you.

STOCK LIST
Keeps you up-to-date on local stocks of specialty steels. Just ask the Crucible salesman to place your name on the regular mailing list.

One Source For All These Steels

TOOL STEELS–Water, oil, air hardening, shock resisting, hot work, plastic and die casting steels in all forms, including bars, sheets, plates, drill rod, hollow bars, forgings and flat ground stocks

HIGH SPEED STEELS–Crucible's famous "Rex"® steels: Rex Thrift Finish rounds, hot rolled and cold drawn flats and squares, drill rod, forgings, sheets, plates, and tool bits

STAINLESS STEELS – Bars, sheet, strip, wire, cold heading wire, metalizing wire, plates, angles

FREE MACHINING STEELS – Crucible Max-el® rounds, hexagons, plates and brake die steel
ALLOY STEELS – Bars, billets, strip and sheet
COLD ROLLED CARBON SPRING STEELS
DRILL STEELS – Hollow and solid drill steels
ALUMINUM EXTRUSION DIE STEELS
HOLLOW TOOL STEEL
WELDING AND HARD FACING ROD
PLASTIC MOLD STEELS
PERMANENT MAGNETS
– and many others

CRUCIBLE STEEL COMPANY OF AMERICA

Branch Offices and Warehouses: Atlanta • Baltimore • Boston • Buffalo • Charlotte • Chicago • Cincinnati • Cleveland • Columbus • Dallas • Dayton Denver • Detroit • Grand Rapids • Harrison • Indianapolis • Kansas City • Los Angeles • Milwaukee • New Haven • New York • Philadelphia • Pittsburgh • Portland, Ore. • Providence • Rockford • Salt Lake City • San Francisco • Seattle • Springfield, Mass. • St. Louis • St. Paul • Syracuse Tampa • Toledo • Tulsa • Toronto, Ont.

Roll up the score







with MILLERS FALLS INDUSTRIAL TOOLS

Roll up your production score with Millers Falls portable electric tools for industry. This famous line of high-efficiency tools is increasing production — *and profits* — in thousands of shops from coast to coast. It's a powerful team, carefully engineered for top performance with minimum maintenance.

We'll demonstrate Millers Falls tools on the toughest job in your own shop, or send you complete information about our full line. Just write us.



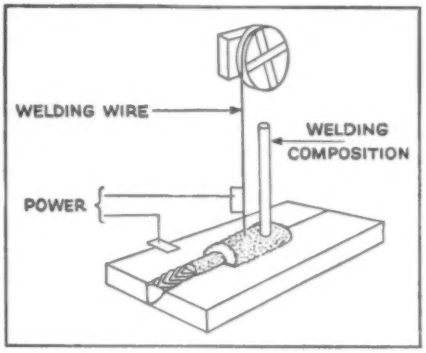
MILLERS FALLS TOOLS
SINCE 1868

MILLERS FALLS COMPANY

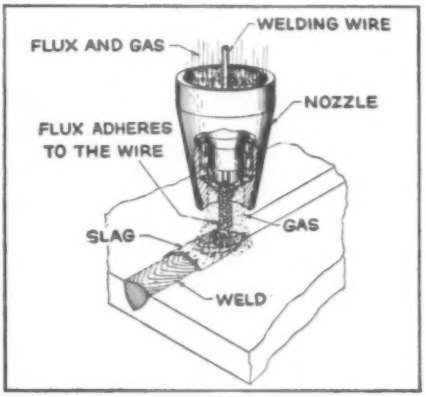
Dept. PR-12
Greenfield, Mass.

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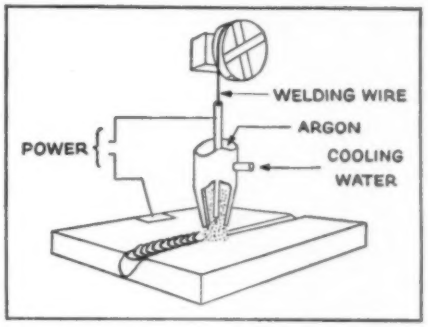
LINDE's Modern Methods for Joining Metals



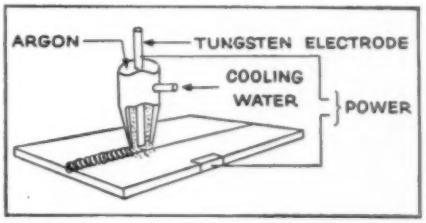
UNIONMELT Welding is a submerged arc process for high-quality electric welding at high speed of any thickness of commercially-used steel, without flash, glare, or sparks. UNIONMELT Welding equipment and supplies are available from LINDE.



UNIONARC Welding is LINDE's newest development in manual electric welding, using a magnetic flux with gas-shielded arc. UNIONARC Welding is extremely fast and economical; can be handled in all positions—vertical, overhead, downhand.



Sigma Welding—A superfast, shielded inert gas metal arc method for production electric welding of aluminum, stainless steel and other metals. LINDE supplies equipment, consumable electrodes, and inert gases for Sigma welding.



HELIARC Welding makes clean, smooth welds electrically without flux, in practically all commercial metals at high speed. HELIARC Cutting Apparatus is fast, flexible, and versatile. LINDE supplies equipment and inert shielding gas for both types of apparatus.

• • •

ARGON GAS . . . RODS . . . WIRE

LINDE Argon—guaranteed 99.995% pure—and all welding rods, wire, and other materials you need can be obtained from LINDE sources conveniently located all over the nation.

Complete information about any LINDE method or product can be obtained from your nearest LINDE office. LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. Offices in other principal cities. In Canada: Linde Company, Division of Union Carbide Canada Limited.

Linde TRADE-MARK

UNION CARBIDE

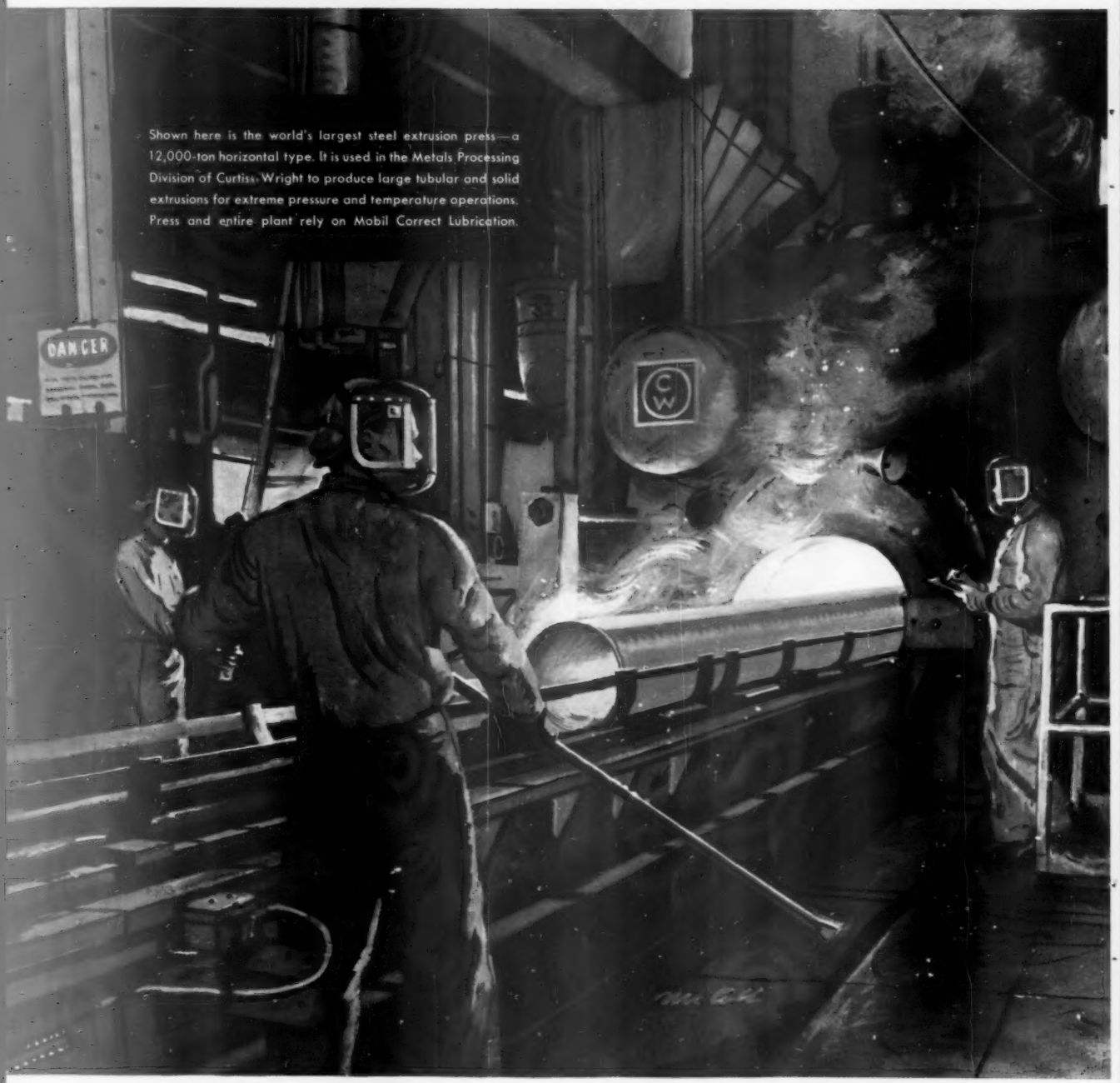
The terms "Linde," "Unionmelt," "Heliarc," "Unionarc" and "Union Carbide" are registered trade-marks of Union Carbide Corporation.

For More Information Write No. 178 on Inquiry Card—Page 32

For More Information Write No. 179 on Inquiry Card—Page 32→

Correct Lubrication in Action...

How Mobil saved



Shown here is the world's largest steel extrusion press—a 12,000-ton horizontal type. It is used in the Metals Processing Division of Curtiss-Wright to produce large tubular and solid extrusions for extreme pressure and temperature operations. Press and entire plant rely on Mobil Correct Lubrication.

Mobil

Complete Engineering Program
Proved Petroleum Products

Mobil

SOCONY MOBIL OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP., MOBIL OVERSEAS OIL CO., INC.

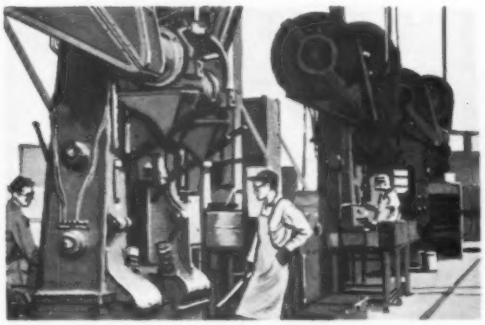
Curtiss-Wright $8,589



Every time Curtiss-Wright's Metal Processing Division receives a lubricant shipment a big savings is made. Why? Because a Mobil man suggested a new purchasing pattern which brought substantial discounts. Another recommendation saved $1,152 in the company's forging shop.

Here are but two instances of Mobil's imaginative engineering service—an important part of *Correct Lubrication*. Alert, qualified engineers in this plant—*but not on the payroll*—have helped save over $8,589.78 in the last year alone. They have worked closely with Curtiss-Wright engineers, setting up maintenance systems, recommending products and methods that have cut downtime . . . improved production in numerous ways.

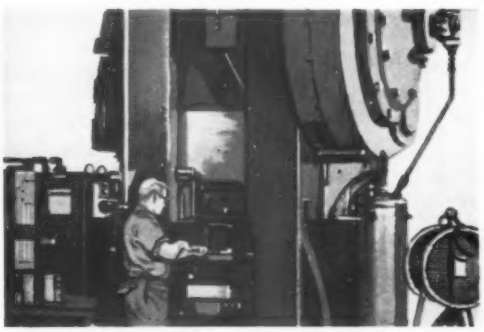
If you purchase lubricants . . . if you're interested in improving company profits . . . it will pay you to investigate Mobil *Correct Lubrication*. This comprehensive lubrication program often more than pays for itself—in profits!



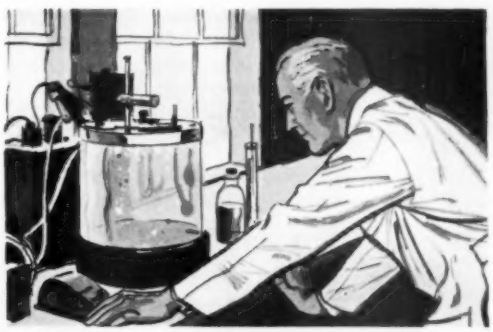
Bearings on drop hammers in Curtiss-Wright's forging shop failed after ten months. Mobil recommended a grease that extended bearing life five years . . . saved $1,152 every ten months.



Curtiss-Wright saves by re-using hydraulic oil as coolant for polishing machine. This saving is part of oil reclamation program organized by Mobil and plant lubrication supervisor. Altogether savings total $5,392 annually.



Bull gears on giant presses required application of grease every week. Mobil recommended improved product that extended application period to monthly intervals . . . cut grease consumption 76% . . . cut application cost $665 per year.

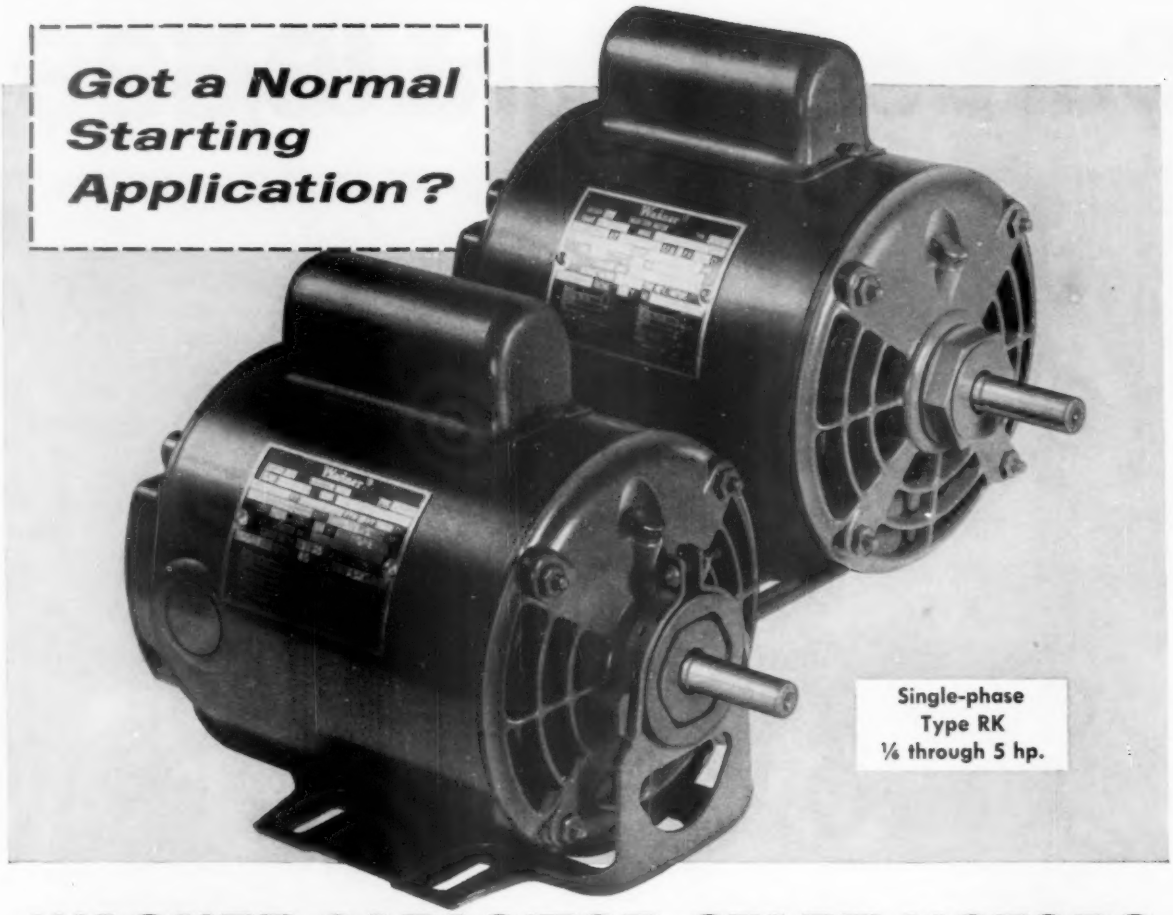


Cooling and lubricating emulsion on cut-off saw broke down into curdly mass. Mobil laboratory analysis pinpointed contamination source. Adding an inexpensive chemical eliminated shutdown and cleaning operation.

Correct Lubrication

Another reason <u>You're Miles Ahead with Mobil!</u>

Got a Normal Starting Application?



WAGNER CAPACITOR-START MOTORS

provide dependable starts... long troublefree life

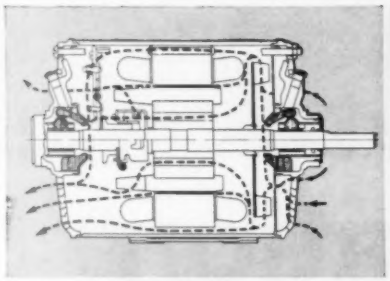
Here's the single-phase general purpose motor that gives more horsepower with less bulk—is rugged enough to permit direct mounting, compact enough to fit in tight spots. Available with sleeve or ball bearings—with rigid bases or with resilient mountings for exceptionally quiet operation.

ALL-ANGLE OPERATION—The sleeve bearing design in fractional hp ratings, has a positive lubrication system that permits operation in any position. All angle mounting can mean important savings in initial costs to manufacturers—can help the design engineer in a tight spot. You can get these motors from leading motor distributors in your community and from Wagner Sales Offices in 32 principal cities. Your Wagner Sales Engineer will be glad to help you select the right motor for your application. Wagner Bulletin MU-217 gives full details.

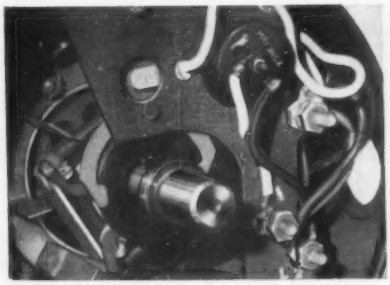
Wagner Electric Corporation 6360 Plymouth Ave., St. Louis 14, Missouri.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

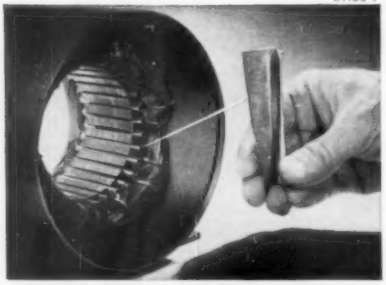
WM58-7



EFFICIENT COOLING SYSTEM—The improved ventilating system used in these motors directs a large volume of air through the motor to effectively reduce temperatures and add to motor life. Cross section above indicates direction of air flow.



QUICK BREAK SWITCH—The starting winding and capacitor are disconnected from the line by this Wagner Switch—test-proved to make more than a million makes and breaks . . . the equivalent of two starts per hour for 50 years.



MYLAR* INSULATION — Mylar-paper laminated slot insulation gives top protection against moisture, adds thermal stability, to give more application versatility and longer life when unexpected overloads occur.

*DuPont Trademark

For More Information Write No. 180 on Inquiry Card—Page 32



Architect's rendering of the new Bagpak plant in Litchfield, Ill.

GETS FAST, SHORT-HAUL DELIVERIES OF INTERNATIONAL MULTIWALL BAGS!

You benefit directly from International Paper's modern, new Bagpak plant in Litchfield, Illinois.

If your plant is situated in the heart of this busy mid-western market, you now have an even closer source for the full line of International multiwall bags.

Industry in other parts of the United States benefits by faster and better service too. For Litchfield's capacity eases the demand on our other plants and warehouse facilities.

With this increase in manufacturing facilities and distribution efficiency, it will pay you to remember that wherever you are, you're never far from International Paper . . .

your most dependable source of supply . . .

INTERNATIONAL PAPER

BAGPAK DIVISION, N.Y.17, N.Y.

For More Information Write No. 181 on Inquiry Card—Page 32

Information For Your Catalog Files

CABLE CONVEYORS

The 4 page Bulletin 40A gives details on applications of Bush-Lock universal overhead cable conveyors. Described are standard stock components and how they can be customized into an efficient overhead trolley system. Individually illustrated, along with sample functional layouts.

E. W. Buschman Company

Write No. 1 on Inquiry Card—Page 32

CIRCUIT BREAKERS

Contains pricing, dimensional, and application information on Speedfax molded case and large air circuit breakers. The 56 page illustrated catalog also has a general descripition of switchgear products. A central selection chart indicates ratings, overcurrent devices, attachments, and modifications available.

I-T-E Circuit Breaker Company

Write No. 2 on Inquiry Card—Page 32

CONTROL SYSTEMS

An 8 page bulletin, Catalog F7291 has many control system suggestions. Uses for Micropositioners are listed under these headings: general controls, instrumentation, servomechanisms, and transistor circuits. All applications are illustrated with wiring diagrams and photographs.

Barber-Colman Company

Write No. 3 on Inquiry Card—Page 32

CIRCUIT ENCLOSURES

Catalog No. 1-125 introduces a new line of Stab-lok circuit enclosures. The 36 page bulletin also describes single pole, two pole, and three pole circuit breakers. For each unit, wiring diagrams and photos are presented, together with information on the technical features and applications.

Federal Pacific Electric Company

Write No. 4 on Inquiry Card—Page 32

CUTTING TOOLS

Describes special purpose high thrust hydraulic cutting tools. The 70 page catalog is divided into nine sections according to the general type of material to be cut. Both manual and electrical valve control methods are presented, as well as multiple tool operation from one power source.

Manco Mfg. Co.

Write No. 5 on Inquiry Card—Page 32

DRIVES AND COUPLINGS

Flexidyne dry fluid drives and couplings are described in this 24 page catalog. Bulletin A-640B includes tables to aid selection for normal and heavy-duty service. Has product photographs and engineering drawings, along with installation pictures showing applications.

Dodge Manufacturing Corporation

Write No. 6 on Inquiry Card—Page 32

HOSES

A 66 page booklet providing dimensional information and data on Teflon hoses. Catalog #103 has a selector chart giving general information about the types of hoses recommended for specific applications. Has instructions for ordering hoses and fittings of special length and design.

Aeroquip Corporation

Write No. 7 on Inquiry Card—Page 32

MOTORS (SYNCHRONOUS)

Catalog #EI-4 gives emphasis to a wide selection of hysteresis motors. Detailed data on over 200 synchronous motor designs, along with technical information on the theory and application. Listings also include frequency and power ratings.

Electric Indicator Co., Inc.

Write No. 8 on Inquiry Card—Page 32

PIPE

Describes the uses of transite pressure pipe for overhead industrial water and process lines. Illustrates and presents the advantages of transite pipe.

Johns-Manville

Write No. 9 on Inquiry Card—Page 32

POWER TOOLS

An 88 page catalog describing industrial power tools and accessories. Complete specifications, catalog listings and descriptions are included. Action photos and drawings supplement the text.

Delta Power Tools

Write No. 10 on Inquiry Card—Page 32

SAFETY EQUIPMENT

This 48 page catalog is a helpful guide to the selection, application, and maintenance of protective equipment. Includes a detailed chart listing recommended safety equipment for 17 classifications of industrial hazards. Also has information on specifying lenses.

Chicago Eye Shield Company

Write No. 11 on Inquiry Card—Page 32

PUMPS

Catalog No. 100 contains basic information on pumps, fluid motors, and valves. The 12 page bulletin describes in detail internal gear, sliding vane, and spur external gear pumps. A selection chart classifies all models according to operating requirements, construction features, mountings, and packing characteristics.

Tuthill Pump Company

Write No. 12 on Inquiry Card—Page 32

For More Information Write No. 182 on Inquiry Card—Page 32→



Youngstown steel pipe

will help lift structures to the skies in his day

Imposing office buildings of glass and steel, rising to dominate a city's skyline . . . clean, windowless factories encompassing acres in air-conditioned comfort . . . these and the millions of other daring examples of tomorrow's architecture will be built with, and around, more steel piping than we can hardly imagine. Youngstown, today, is anticipating tomorrow's need for more and better steel pipe—whether for fluid transmission or structural purposes. Advancements in metallurgy and steelmaking facilities will make certain that when expanding needs of the future call for better steel pipe... *Youngstown can supply it.*

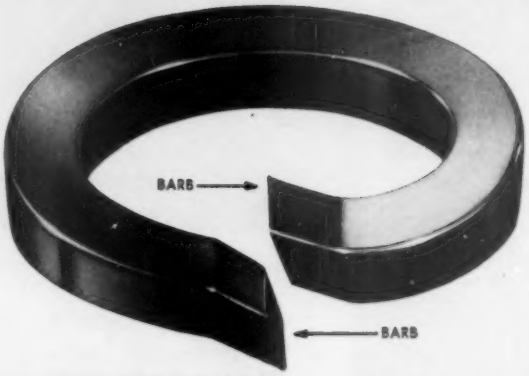
THE
YOUNGSTOWN
SHEET AND TUBE COMPANY
Youngstown, Ohio

Manufacturers of Carbon, Alloy and Yoloy Steel

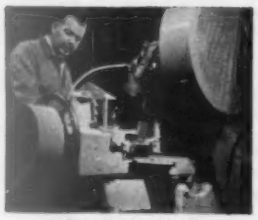
NOW for the FIRST TIME

the ORIGINAL

NON-LINK POSITIVE LOCK WASHERS



AT NO EXTRA COST!



This Is The Machine That Makes It Possible



Be SURE with NON-LINK POSITIVE Lock Washers — the "barbs" make the difference

This illustration shows how NON-LINK POSITIVE Lock Washers combine the advantages of tooth-type washers with the proven spring-power of regular lock washers. Arrows point to the teeth or "barbs" in both the nut and the bearing surface. At the same time, the spring-power maintains the tension which assures a permanently tight assembly.

Automation Eliminates Costly Operations

A new, high-speed fully automated process (Patent Pending), developed by POSITIVE produces these superior lock washers at low cost because it eliminates slow, costly manual operations formerly required. As a result, you can now buy NON-LINK POSITIVE Lock Washers in 9 Popular Sizes (A.S.A. Medium) at the same price you are paying for conventional spring lock washers.

9 Popular Bolt and Screw Sizes (A.S.A. Medium)

3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 3/4"

Test their superior holding power and be convinced that they combine all the advantages of tooth-type washers with those of live action spring lock washers. NON-LINK POSITIVE Lock Washers have long been known as the *sure way* to keep bolts and nuts tight — and remember, now you can buy them at the same price as regular lock washers.

Send for FREE Trial Order

If you will write us on your company letterhead, we'll gladly send you FREE a small quantity of NON-LINK POSITIVE Lock Washers in any or all of the 9 popular sizes listed above (A.S.A. Medium Section).

POSITIVE LOCK WASHER CO.

183 Miller St. • Newark 3, N. J.

For More Information Write No. 183 on Inquiry Card—Page 32

Catalog Files

STAMPINGS

A brochure depicting processes and equipment employed in special forming and deep drawing of intricate light and heavy metal stampings. Included are multiple operation and high production rate machines, optical cross-checking instruments employed in quality control, transfer mechanisms, and automatic positioning equipment.

Reichart Float & Manufacturing Co.

Write No. 13 on Inquiry Card—Page 32

STEEL SHEETS AND STRIP

A buyers' guide to all kinds of sheet and strip, Bulletin 20-1 lists types available for prompt shipment. Cost factors of coils, stock sizes, and cut-to-order sizes are reviewed. Information on pre-painted steel in slit coils and flat sheets.

Joseph T. Ryerson & Son, Inc.

Write No. 14 on Inquiry Card—Page 32

STEEL WAREHOUSES

A bulletin explaining "What's Your Real Cost of Possession of Steel." Helps buyers determine the true cost of steel ready for use. Breaks down the cost of possession into three major groups—cost of capital, cost of operating the space, and obsolescence and insurance.

American Steel Warehouse Association, Inc.

Write No. 15 on Inquiry Card—Page 32

TRANSFORMERS

The 24 page bulletin is a reference for selecting small power and control, general purpose, and special purpose transformers. Catalog GEA-6723 is illustrated and contains a complete description of each type. Includes typical ratings, prices, and application information.

General Electric Company

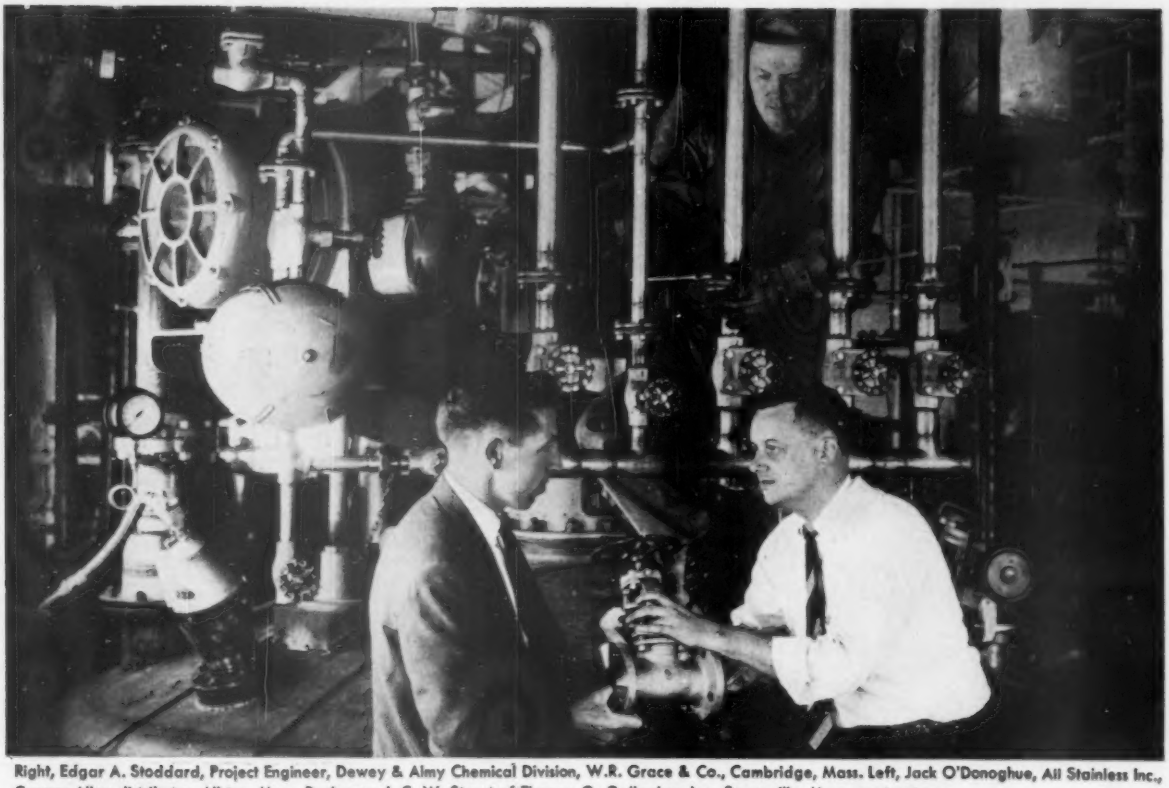
Write No. 16 on Inquiry Card—Page 32

WELDING SUPPLIES

A 52 page welding supplies and accessories catalog illustrated with over 100 photographs. Form ADC 848C covers a complete line of fluxes and ferrous and nonferrous rods for gas welding.

Air Reduction Co., Inc.

Write No. 17 on Inquiry Card—Page 32



Right, Edgar A. Stoddard, Project Engineer, Dewey & Almy Chemical Division, W.R. Grace & Co., Cambridge, Mass. Left, Jack O'Donoghue, All Stainless Inc., Cooper Alloy distributor, Allston, Mass. Background, C. W. Stuart of Thomas G. Gallagher, Inc., Somerville, Mass., contractors.

STODDARD of DEWEY & ALMY

Tells Why He Specifies Cooper Alloy for Stainless Valves and Fittings

Q. Mr. Stoddard, why does Dewey & Almy, a leading manufacturer of chemical and plastic specialties for industry, use stainless valves and fittings?

A. For two reasons of major importance in the chemical processing industry: purity of product, and resistance to corrosion.

Q. Why Cooper Alloy?

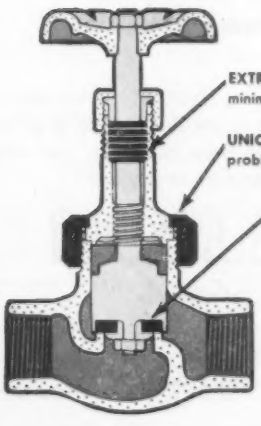
A. For three reasons equally important: ease of maintenance, thanks to Cooper Alloy's unique design features; availability; and distributor service.

Q. What design features are you referring to?

A. Well, take these Cooper Alloy renewable-disc globe valves on these monomer lines. We like the ease of operation and low maintenance. And of top importance, these valves eliminate serious vapor leakage we once had.

Q. What about availability and service?

A. Outstanding. In fact, All Stainless Inc., the local Cooper Alloy distributor, has even gone to the trouble of taking over most of our stocking problems, by putting in a complete representative stock of Cooper Alloy RD globe valves. That's what we call *service!*



COOPER ALLOY Figure 15RD Globe Valve, inside screw rising stem, 200-lb. service, screwed ends, renewable retained disc of composition you specify.

A VALVE DESIGNED FOR STAINLESS! The Cooper Alloy valve is not an adaptation of earlier brass and iron patterns. Cooper Alloy, with over 35 years of experience in handling stainless steel, created a valve designed to be cast in stainless! Check the Special Design Features shown at left.

As the little CA man below is saying: "You can tell a Cooper Alloy Valve as far as you can see it!" Write today for your copy of our folder "Design Factors In Stainless Steel Valves." The Cooper Alloy distributor near you will be glad to show you the complete line of Cooper Alloy valves and fittings, and their advantages. He can serve you promptly from local stocks.

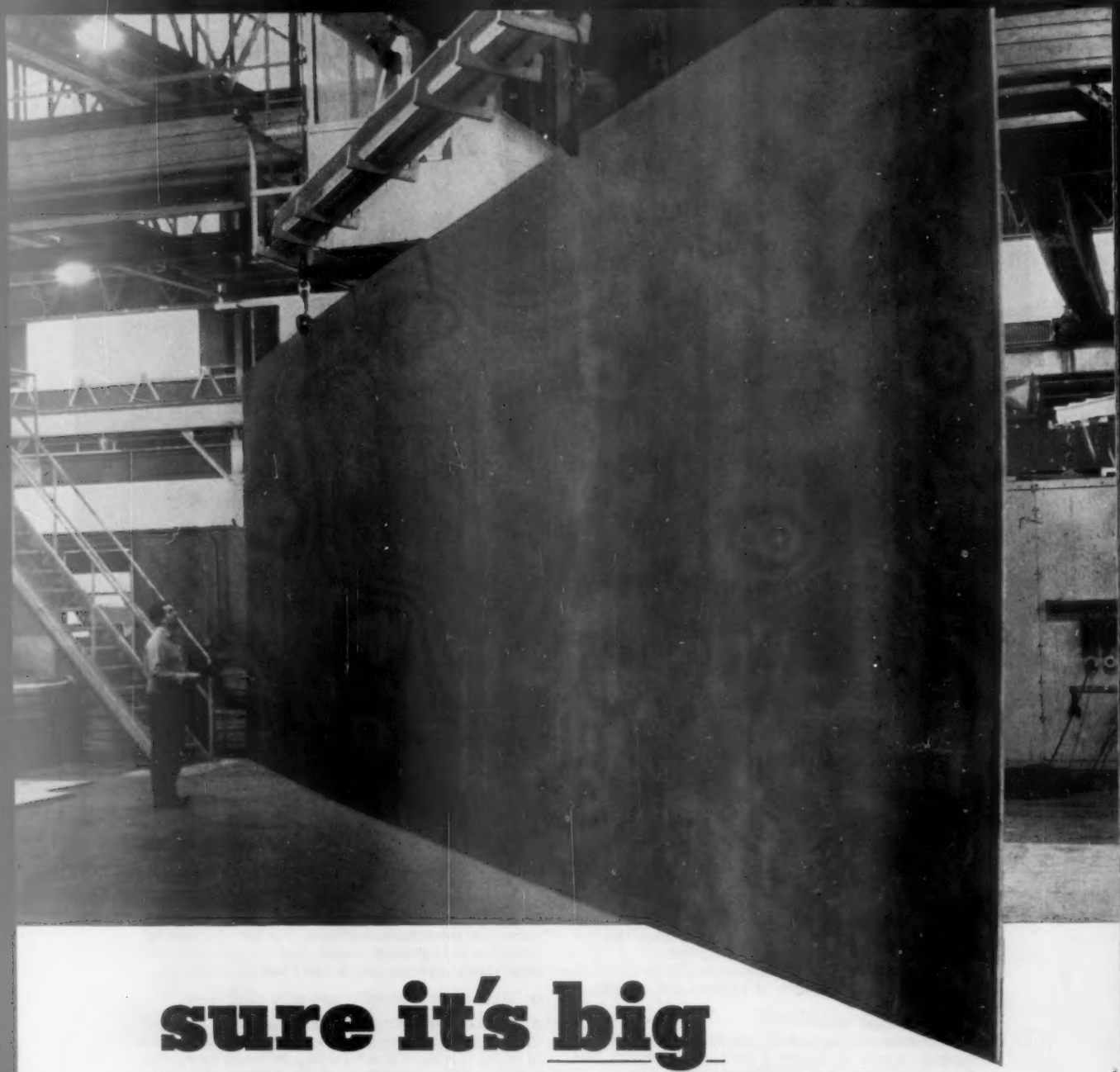
COOPER ALLOY

Corporation • Hillside, New Jersey

FOUNDRY PRODUCTS DIVISION

THIRTY-FIVE YEARS OF STAINLESS STEEL PIONEERING

For More Information Write No. 184 on Inquiry Card—Page 32



sure it's big

. . . but not particularly big or unusual

in Carlson's production of stainless steel plate

IT was normal, but not easy, for Carlson specialists to handle this big plate. Type 304-L stainless, it measured 7/16" x 131½" x 452 9/16" and weighed an impressive 7923 pounds. And when this big one landed at the customer's receiving dock it was *exactly* what he wanted . . . *right* by chemical composition, *right* by physical standards, *right* to specification and *right* to size.

Whatever you need in stainless steel—big plates, small rings, formed or cut-to-shape items—will be produced accurately and on time. Stainless steel is our *only* business, and we know it. That is why you can depend on Carlson to give you *what you want when you want it!* Your inquiry is invited.

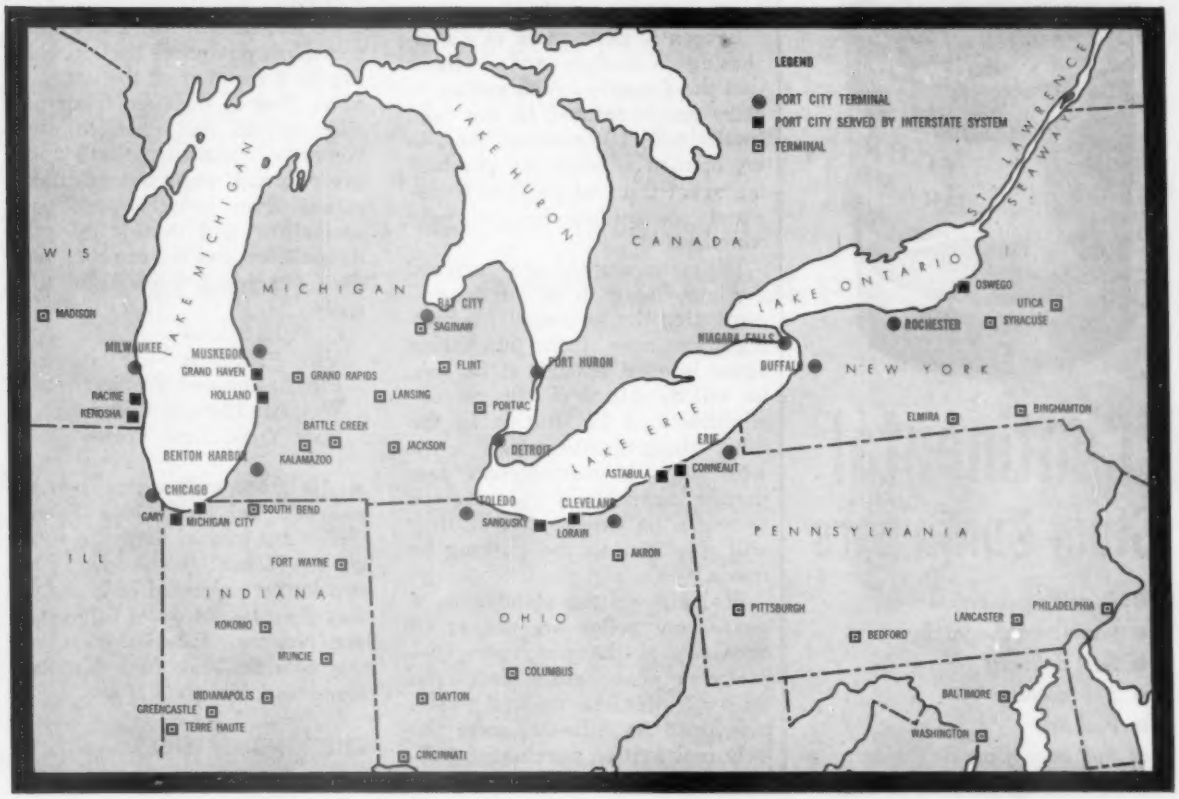
G.O.CARLSON *Inc.*

Stainless Steels Exclusively

130 Marshalton Road
THORNDALE, PENNSYLVANIA
District Sales Offices in Principal Cities

PLATES • PLATE PRODUCTS • HEADS • RINGS • CIRCLES • FLANGES • FORGINGS • BARS AND SHEETS (No. 1 Finish)

Interstate's strategically located terminals connect seaway and Mid-America



Interstate Motor Freight System connects the St. Lawrence Seaway with all major U. S. highways and cities by maintaining terminals in nearly all major port cities. Interstate System also serves a large number of secondary port cities.

Established contacts, comprehensive facilities and the experience of routing shipments by land and sea are reasons why you should specify Interstate System for both inbound and outbound foreign and domestic freight.

Interstate Motor Freight System has 52 terminals in 18 states east of the Mississippi River. We also offer exceptional coast-to-coast service to or from points named in Rocky Mountain Tariffs. Our midwest carrier is Prucka Transportation, Inc.; our West Coast carrier is Garrett Freightlines, Inc.

Call in an Interstate System transportation representative today. He'll show you how a wise choice of transportation, either by land or water, can save you time and money. He's listed in the Yellow Pages.



INTERSTATE MOTOR FREIGHT SYSTEM

Grand Rapids, Michigan

55 Terminals In 21 States • Coast-to-Coast Service
Serving Largest Cities - Smallest Towns

MORE THAN A TRUCK LINE . . . A TRANSPORTATION SYSTEM

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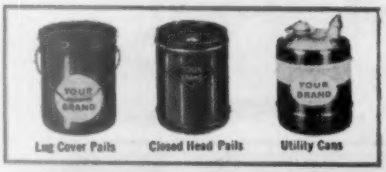
TAKE TOUGH TREATMENT!



Continental
Steel Containers

- *Positive protection*
- *Superior lithography*
- *Fast delivery*
- *Top quality*
- *Full line*
- *Full line of pouring spouts*
- *Famous Continental service*

Call Continental when you need steel containers. Get top quality plus outstanding Continental service. Engineering and research assistance available to help you solve any packaging problem.





PERMA-LINED TO PROTECT HARD-TO-HOLD PRODUCTS

Airless hot sprayed enamel lining assures complete interior coverage, guarantees 100% protection.

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

For More Information Write No. 187 on Inquiry Card—Page 32

Letters To The Editor

PURCHASING OPINIONS

Your recent Purchasing Opinion Ballot is concerned mostly with the position of the purchasing agent in a smaller firm.

I recently gave a talk at a Purchasing Workshop and I think that the answers to this questionnaire are contained in my talk. In the talk, I mentioned that, in my opinion at least, the purchasing agent is in no position to demand recognition—he can only command it.

His management has recognized the importance of the job by concentrating the authority for buying in one area. If the purchasing agent is good enough at his job, he will be able to sell his responsibilities and his duties to the other departments which work with him. If management sees that he is capable of doing the job to which he was appointed, they will give him all the backing he needs.

Strongly written statements of purchasing policy are not at all necessary if the purchasing department has established the proper interdepartmental relationships. At Allis-Chalmers the only real written purchasing policies that we have are those which are necessary to assure internal control to satisfy both company and impartial auditors.

My suggestion to the small company purchasing agent is that he know more about his company's business than anyone else, and that he learn more about his suppliers than anyone else. Add to it a course in human relationships and he ought to become president.

K. R. Geist
Director of Purchases
Allis-Chalmers Manufacturing Co.
Milwaukee, Wisc.

There is one observation I should like to make concerning your Purchasing Opinion Ballot on Purchasing Performance. We consider it very important in our own evaluation and it would undoubtedly be termed vital by other purchasing executives: the success of any purchasing organization ultimately depends on the contribution that it makes in furthering its company's basic objectives.

To measure up fully to this responsibility requires that purchasing be a member of the company team, that it do everything possible to aid and enhance other company functions, that it develop broad management timber rather than strictly purchasing specialists, and that it integrate its policies and procedures with basic company objectives and goals.

G. F. Raymond
Vice President
Purchasing and Traffic Division
Western Electric Company
New York, New York

• *All letters and comments in response to our Purchasing Opinion Ballot are treated with the strictest confidence. In the case of the two letters reprinted here, we felt that they would be of interest to our readers. Permission to use was obtained from both Mr. Raymond and Mr. Geist.*

CHECKING INVOICES

We have investigated the matter of checking invoices, whether by purchasing or accounting, and the decision in this company was to transfer the operation to the accounting department.

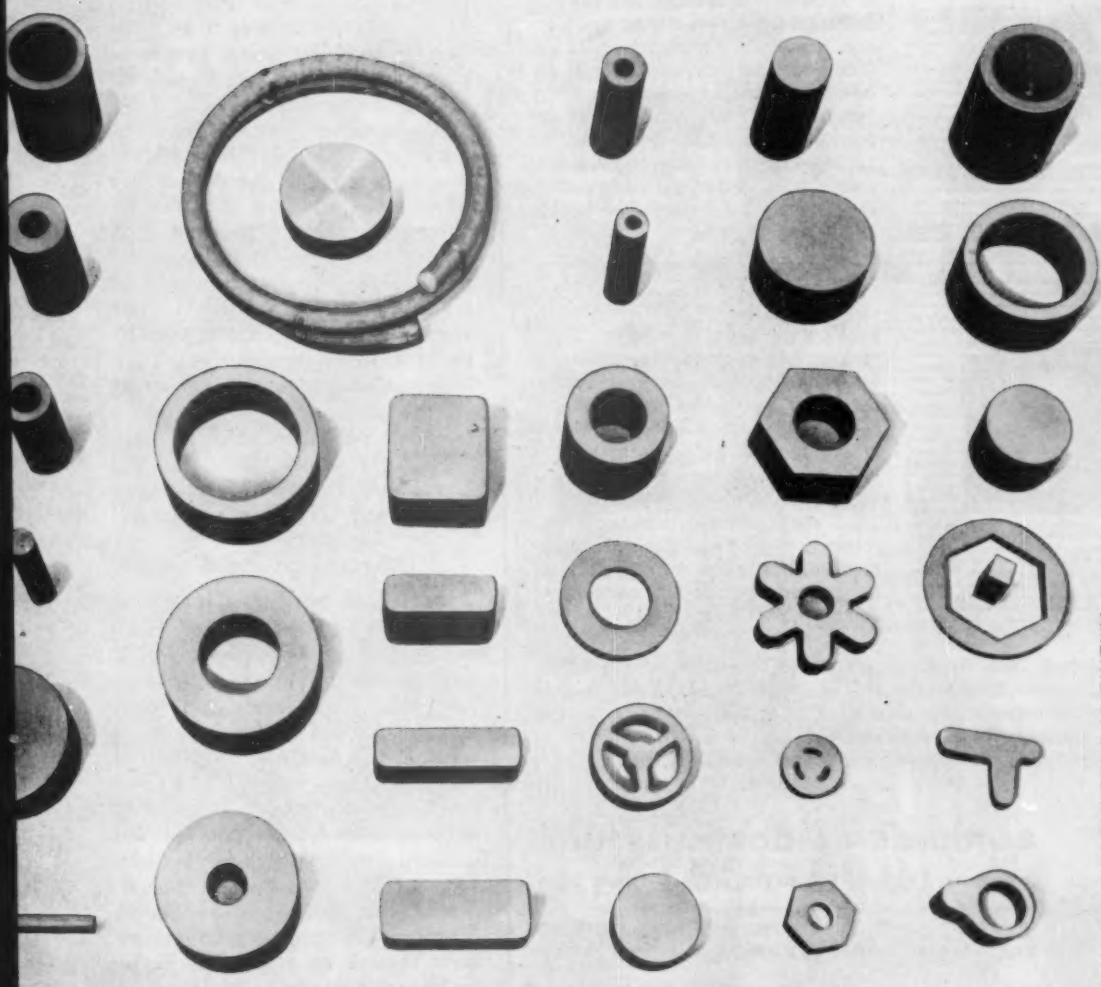
The last paragraph of your article in the October 13 issue ("Who's Responsible for Checking Invoices", page 82) sums up the matter rather clearly, and it certainly depends upon the individual company as to which method is selected.

I have noticed, however, in almost all articles and conversations concerning the subject, that proponents for the accounting department state that purchasing should not approve payment for things which they secure. Merely as a matter of record, I would suggest that the idea of approval be removed from the discussion, as checking an invoice for price,

For More Information Write No. 188 on Inquiry Card—Page 32→

In continuous lengths: the bronze casting you want in the shape you want! The advantages of custom-shapes in long lengths instead of individual castings. The uniformity and machinability of bronze alloys with no hard or soft spots: no sand, dirt, or dross to dull tools or reduce cutting speeds. The superior physical characteristics of continuous cast bronzes: impact, tensile, and yield strength, and hardness, improved as much as 100% over the same alloys cast by other methods. Asarco will custom cast practically all standard tin-bronze alloys in the shapes, lengths and diameters you need. Asarcon 773 (SAE 660), general purpose bearing bronze, is available from stock in 260 standard sizes, solids and tubes. Check with your local Asarco distributor or write: Continuous-Cast Products Dept., American Smelting and Refining Company, Barber, N. J., Kingwell Bros., Ltd., 457 Minna St., San Francisco. In Canada: Federated Metals Canada, Ltd., Toronto and Montreal.

CONTINUOUS-CAST DEPARTMENT OF



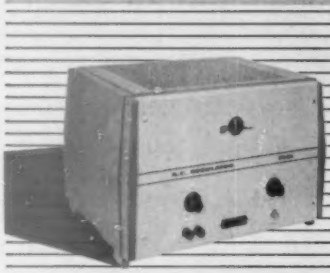
ASARCO

AMERICAN SMELTING AND REFINING COMPANY

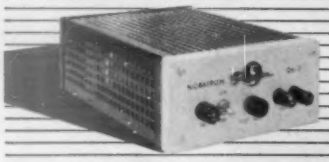
58-17

NEW IDEAS IN PACKAGED POWER

for lab, production test, test maintenance, or as a component or subsystem in your own products



0.01% regulation—Why be half safe? You can get a-c line voltage regulation to the exact degree of precision you need from Sorensen. Model 2501 (left) regulates a-c line voltage to ±0.01% at 2500 VA. Other Sorensen a-c models range in precision from meter calibrators to rugged "constant voltage transformers," designed to give you maximum volt-amps per dollar.



Fully-transistorized regulated d-c supplies—The most complete line of transistorized low-voltage d-c power supplies on the market—like the new Model Q6-2 (left)—is offered by Sorensen. Regulation accuracy is ±0.25% (line and load combined). Life is exceptional. Response speed is extremely fast. They come with voltage adjustable over 2:1 range (Model Q Series) in 6, 12, 28 vdc and capacities to 200 watts. Also in 0-36, or 0-75 vdc continuously variable "Rangers" (Model QR Series) of 150-watt capacity.



Here's a d-c workhorse for rack-panel equipment—New Sorensen Model MD supplies feature magnetic regulation, semiconductor rectifiers, capacitance-input filters—and low cost. What's more you get any factory preset voltage you want, from 2.5 vdc to 1000 vdc. Available in 8 sizes from 25 to 3000 watts. No switches, no fuses (short circuited output is not recommended, but is not damaging). Ideal for powering your 19" rack-panel equipment.

Sorensen has many other ideas for packaging power to your needs, including standard off-the-shelf models, both electronic and transistorized, to take care of almost every need for controlled power—whether ac or dc, low or high voltage, low or high current. Ask for the latest Sorensen catalog. And let Sorensen engineers talk over with you a complete power system for your complex electronic equipment.

s.e

Sorensen

SORENSEN & COMPANY, INC.

Richards Avenue, South Norwalk, Connecticut

WIDEST LINE OF CONTROLLED-POWER EQUIPMENT FOR RESEARCH AND INDUSTRY

IN EUROPE, contact Sorensen-Ardag, Zurich, Switzerland. IN WESTERN CANADA, ARVA. IN EASTERN CANADA, Bayly Engineering, Ltd. IN MEXICO, Electro Labs, S. A., Mexico City.

For More Information Write No. 189 on Inquiry Card—Page 32

Letters

quantity, terms, etc., does not constitute approval for payment. I would rather use the word "pass." After the purchasing department has checked the invoice, it is simply passed along to accounts payable for payment according to stipulated procedures.

While this suggestion will not cause any major change in the thinking, I feel that it should be a part of the consideration.

C. R. Rice
Purchasing Agent
Husky Hi-Power Inc.
Cody, Wyoming

TAKING INVENTORY . . .

I have just finished reading the October 13 issue of PURCHASING Magazine and believe that it is one of the finest issues you have put out. I have found several articles to be very beneficial.

We have just completed our annual inventory and one of the problems involves the decision as to which items are of sufficient value to warrant processing. I realize this is a question where there is no simple answer, but I was wondering whether or not you have information which might be of help on this subject. Any information which you can send on the physical inventory problem will be appreciated.

D. D. Hoak
Vice President-Purchasing
Henry Weis Manufacturing Company
Elkhart, Indiana

• *In taking inventory it is important to remember that relatively few items account for a high percentage of the total dollar value. As a result, it is possible to keep accurate inventory records by closely accounting for the few high value items. For example, in many companies, 80% of the dollar value of inventory is accounted for by but 15% of the total items. So, if the 15% is closely watched, good inventory control is maintained even though no attempt is made to keep track of the majority of the items.*





We'd like to send you a FREE copy

A BUYING GUIDE

that will help you get the most for your steel equipment dollars

• New 84-page catalog illustrates and describes LYON's diversified line of steel equipment . . . over 1500 items for Business, Industry and Institutions. There's a Lyon dealer as near as your telephone.

LYON METAL PRODUCTS, INC.
1233 Monroe Ave., Aurora, Ill.
Please send me a copy of Catalog No. 100

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LYON METAL PRODUCTS, INC.
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Dealers and Branches in All Principal Cities

Lyon also has complete facilities for manufacturing special items to your specifications



NOW . . . OFFICE DESKS!

LYON®

STEEL EQUIPMENT

For More Information Write No. 190 on Inquiry Card—Page 32



What shape is a quality fastener?

Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar . . . is self-locking and vibration-proof. Each is a readily assembled, one-piece unit. Each provides positive protection against thread corrosion . . . prevents liquid seepage along bolts. Each is made from the finest of raw materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish. Each is now in use on critical applications, with a record for uniform high quality that is unmatched.

Most of them are standard parts. Some originated as the result of a specific request for ESNA's help with an important fastening problem.

Isn't it logical to call on us with your next fastening problem?

ELASTIC STOP NUT CORPORATION OF AMERICA



Elastic Stop Nut Corporation of America
Dept. N62-1215, 2330 Vauxhall Road, Union, N. J.
Please send the following free fastening information:

☐ ELASTIC STOP nut bulletin ☐ Here is a drawing of our product. What self-locking fastener would you suggest?

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Purchasing People In The News

Haylett O'Neill has been named purchasing agent for Humble Oil & Refining Company, Houston, Texas. Mr. O'Neill succeeds **Francis T. Fendley** who has retired with more than thirty nine years service with the company. Mr. O'Neill, joined Humble in 1934 as a roustabout in East



Haylett O'Neill

Texas after receiving a degree in chemical engineering from Rice Institute. From 1935 to 1941, he served in Humble's Gulf Coast Division, petroleum engineering department. In 1942, he was made assistant buyer in the purchasing department and in 1945, a buyer. He is a member of the National Association of Purchasing Agents and is the current president of the Houston Chapter.

Gordon J. Aubrecht has been appointed purchasing agent and manager of facilities of Dun & Bradstreet, Inc., New York, N. Y. Mr. Aubrecht has been manager of the office operations division of the general reporting and service department at the New York headquarters since 1958. He joined the company as a credit reporter at the Cleveland office in March, 1946. In the following years he assumed duties of increasing responsibility in the reporting and sales departments at various mid-Western offices. In 1955 he was transferred to New York headquarters as staff assistant of the general service department. In 1956 he was appointed manager of Dun & Bradstreet's printing plant at Brooklyn.

New appointments in the purchasing department have been announced by Standard Steel Corporation, Los Angeles, Calif. **Lloyd W. Sawyer**, formerly assistant purchasing agent, is now head of material control. **Jack K. Tedrahn** has been named assistant to the purchasing agent. **Edwin R. Harvey** has been advanced to purchasing director.

Daniel R. Simons has been appointed director of purchases for Ainsworth - Precision Castings Company, Detroit, Mich. For the



Daniel R. Simons

past nineteen years, Mr. Simmons has been associated with the Ford Motor Company in various manufacturing and purchasing positions. He was purchasing agent for the Continental Division.

The Four Wheel Drive Auto Co., Clintonville, Wisc., has instituted a Value Analysis department. **Clifford W. Lewis** will be in charge of the new department. Mr. Lewis will report directly to **Lloyd Pinkowsky**, FWD director of purchases. He will work closely with the newly established Value Analysis Committee, which will have final authority on any recommendations made by him. Mr. Lewis brings to his new job nine years experience in buying such varied components for FWD trucks as transmissions, radiators, steering gears, electrical components and engine accessories. He started with the company in 1941 as a timekeeper and then worked in various production departments, keeping production records. He was appointed a buyer in the purchasing department in 1949.

Appointment of **George L. Teller** as purchasing agent, foundry products and supplies, has been announced by Allis-Chalmers, Milwaukee, Wisc. Mr. Teller succeeds **Fred K. Schroeder**, who retired after sixteen years service. Mr. Teller joined Allis-Chalmers in 1951 as special representative for the purchasing department in the Philadelphia territory. In 1955 he was transferred to the West Allis Works purchasing department as assistant purchasing agent, foundry products and supplies.

Robert L. Lozon has been named director of purchases and trade relations for The Glidden Company, Cleveland, Ohio. Mr.



Robert L. Lozon

Lozon has been with Glidden since 1933. In 1939 he was transferred from the firm's paint trade sales department to the purchasing department where he was soon promoted to buyer. Last year he was made general purchasing agent. In his new capacity Mr. Lozon replaces **Clark P. Maxson**, who has retired from the company.

PHILLIPS OR SLOTTED
MACHINE SCREWS
BY Southern



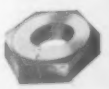
QUALITY MACHINE SCREWS, USA-MADE BY SOUTHERN IN STEEL, BRASS, ALUMINUM, STAINLESS STEEL.

HEAD STYLES: FLAT, ROUND, OVAL, PAN, TRUSS, BINDING, FILLISTER

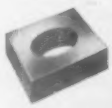
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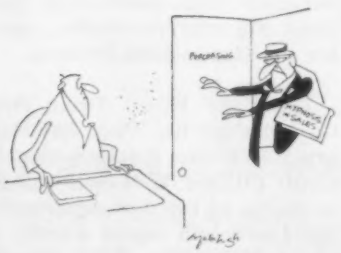
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FOB-"filosofy of buying"

FASCINATING item we saw in the paper the other day reveals (1) Executives Are Really Human Beings After All, and (2) New Advances in Science Pose New Challenge to Purchasing.

According to the dispatch a big merger was about to be completed when the president of one of the companies involved realized he had misplaced a vital stock certificate. Couldn't remember for the life of him where he had left it. Since he was top man, there was no one to chew him out and threaten to fire him for the lapse. So they brought in a hypnotist and put the boss into a trance. He was talked into remembering where the missing certificate was. He bounced back into his normal high-powered executive state, brought the certificate to the office and the deal was closed.

That story had a happy ending. But suppose they start this hypnosis stuff with purchasing agents? You've analyzed the quotes of three or four potential suppliers of an item and decided to give the business to Frommlich who's got them all beaten on quality, service and price. But along comes Schluffkin, who's been to the Evil Eye School of Hypnotism. He engages you in conversation. In a trice he has you in a trance. He starts to tell you about his seven kids, the mortgage on the house,



the high cost of milk. You, being a decent, sentimental sort of chap with eight kids yourself let these hidden impulses come to the surface and overwhelm the sound business principles that were drilled into you at Heidelberg University Graduate School of Business Administration. You switch the business to Schluffkin.

This could be the start of a dangerous trend. All we can say to purchasing agents is to forget the advice that helped Horatio Alger get ahead and *never look a salesman straight in the eye!*

• •

THEY'RE EVEN sticking political labels on statistics these days. The Census Bureau recently released figures on estimated population growth in U.S. in the next twenty years. The bureau offered two estimated figures for 1960, 1965, 1970 etc.—one *liberal*, one *conservative*. We'll stick pretty much to the middle of the road, thank you. Can't stand the thought of a bunch of wild-eyed radical kids running all over the place by 1970. And we'd feel just as bad if they turned out to be a bunch of solemn-faced stuffed shirts.

• •

GIFT-GIVERS who want to court customers' favor through their children please contact Joe Spagna, City Purchase Commissioner, City Hall, New York, N.Y. Joe has some very special items for the small fry on his surplus list and is offering them at tremendous bargains.

Best Buy, according to the Department of Purchase: A young, healthy, housebroken hippopotamus. Named Chauncey, he has a gentle disposition, weighs about 1000 pounds and is a vegetarian. His birthplace is New York City, but he will relocate. Price open to negotiation.

Other interesting items include two elk, four llamas, and four deer. All have been declared surplus at the Central Park and Prospect Park Zoos.

NEW ENGLAND chapter of the National Association of Educational Buyers has a neat scheme to keep a program from getting stale or useless. Each person on a four man panel will speak for a specified time, say 5 minutes, on a topic such as personal purchases. When the five minutes are up, the moderator rings a bell and asks for questions. The moderator keeps a sharp eye on the questioning and when it begins to peter out or wander he rings the bell again. Then he asks for a show of hands as to whether the questioning should continue. If there's a lack of enthusiasm he tells the panelist to sit down and continues with the next portion of the program.

The technique helps to eliminate a lot of the deadwood that often floats to the surface during question periods. And the sharp rap on the good-sized bell (which must have been borrowed from one of the member schools) snaps the inevitable dozers in the audience back to attention.

• •

SWEETNESS AND light are generally stock-in-trade with the intelligent salesman. They cost nothing, make people feel good, and generally get you a pleasant reception from the receptionist. Now, on behalf of all grateful receptionists, Claire Rowan of Bostitch, Inc., East Greenwich, R.I., makes the *beau geste* to all visiting salesmen. She keeps a bowlful of excellent mints at her desk and offers them to everyone who passes through the lobby.



Jim Lundy finds that a visit to Bostitch starts with a pleasant taste.

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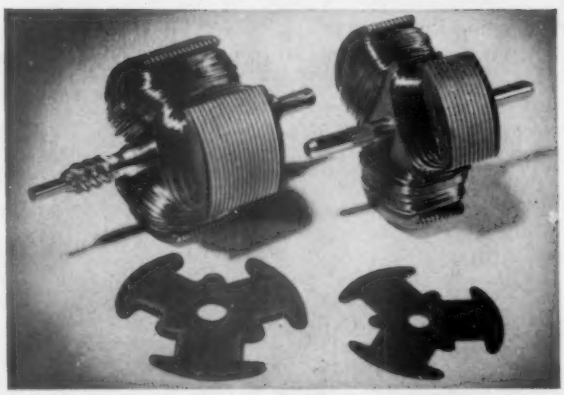


Taylor insulating materials help keep Lionel trains rolling, too

Model trains and the giant real things use hundreds of vulcanized fibre and laminated plastic parts. Designers rely on these materials because of high reliability and low cost.

Although primarily applied as insulating materials in electric motors, power supply units, track elements, locomotives and cars—there are many instances where the unique mechanical properties of these materials are effectively put to work. An example is the use of laminated plastic gears (silent gear stock) to transfer power from electric motors.

You, too, may have applications where Taylor vulcanized fibre and laminated plastics will cut costs and improve product reliability. Our application engineers will be glad to discuss them with you. Both our plants—Norristown, Pa., and La Verne, Calif.—are equipped for prompt supply of basic materials or fabricated parts. Write us for details. TAYLOR FIBRE CO., Norristown 36, Pa.



Taylor Vulcanized Fibre Parts Insulate the rotors used to power Lionel model engines. Photos supplied by courtesy of The Lionel Corporation.

Taylor

LAMINATED PLASTICS / VULCANIZED FIBRE

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Before you buy Motor Controls... CONSIDER THESE FEATURES!



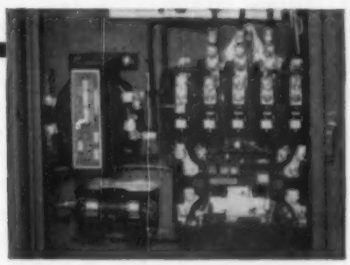
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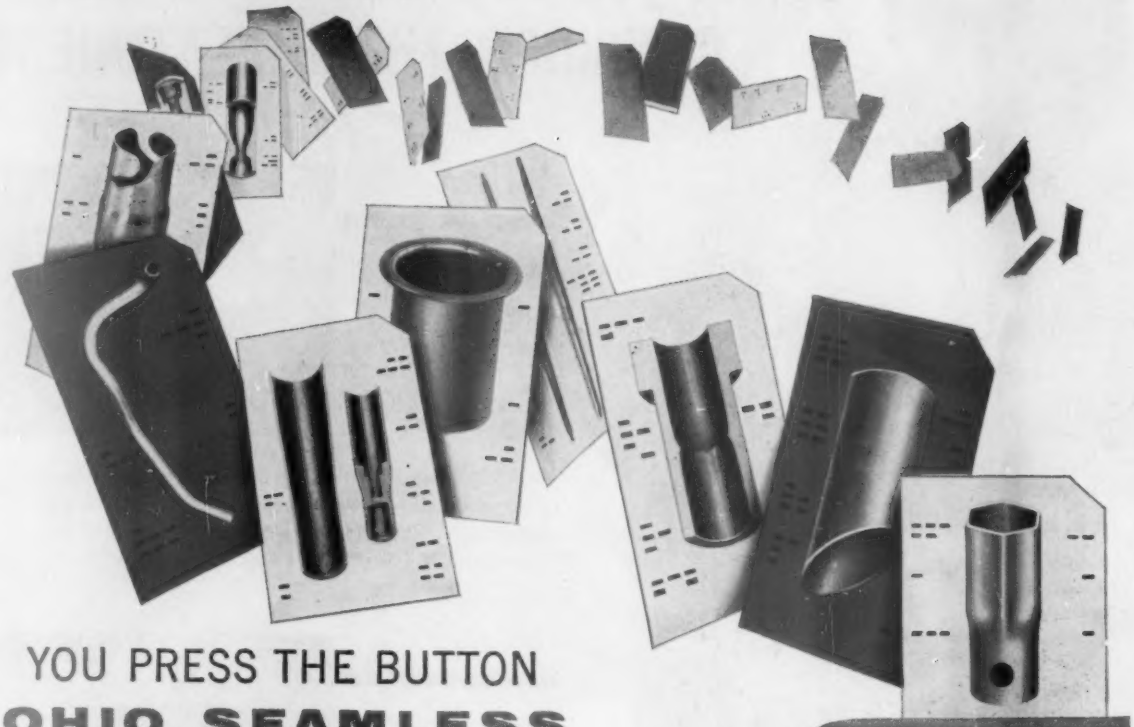
Designed for mass production industrial equipment, the quality features found in the Type "K" are typical of the kind of construction that goes into every device in the Federal Pacific line. Federal Pacific's manual or magnetic motor controls are available in NEMA sizes 0 through 5—with accessories to meet all practical requirements. Bulletin 514 gives full details on combination starters. For this or for specific information to cover your particular needs, write to: FEDERAL PACIFIC ELECTRIC COMPANY, General Offices: Newark, New Jersey.

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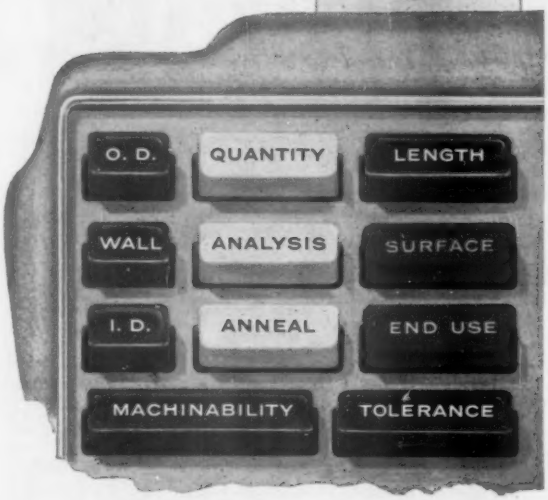
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Highlights of This Issue

What's A "Typical P.A.?"

Classifying people as "typical" this and that is a minor fault with most of us. We dub one fellow a "typical salesman", another a "typical engineer" and just ignore the great number of variations that exist among people in a given profession. Purchasing agents have been sinned against as much as they have sinned in this respect. But this doesn't relieve us from the responsibility of knowing ourselves, of trying to analyze the psychological requirements of our jobs, and of adjusting ourselves to those requirements. This ultimately has to be a do-it-yourself project but the job will be a lot easier with professional help and guidance. A prominent industrial psychologist offers just that in our lead article, "What Makes The P. A. Tick?" starting on page 59.

Help Across the Board

This issue is loaded with practical ideas for dealing with basic purchasing problems. Check the following articles to see how others' experience can be adapted to your own needs:

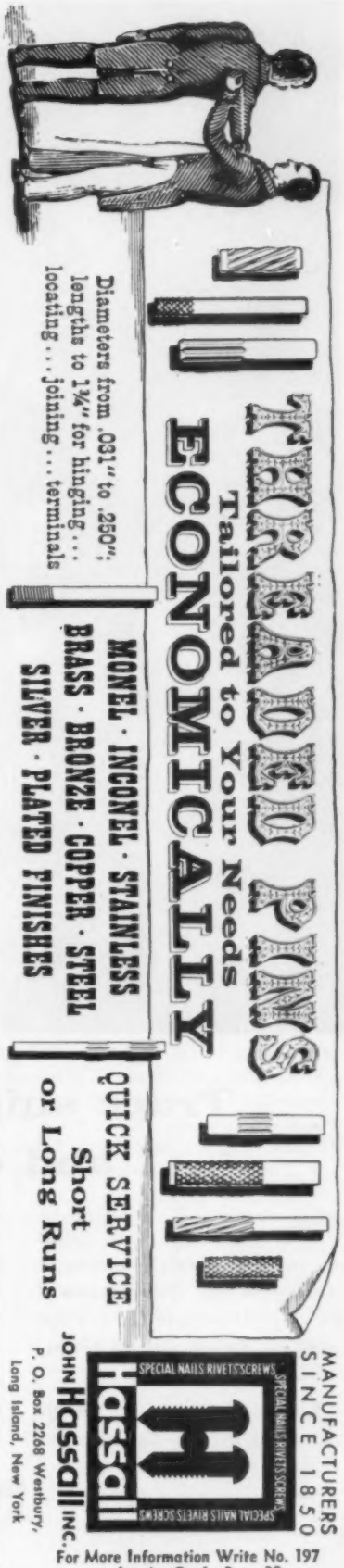
Purchasing and Value Analysis: More evidence that organized analysis can be carried on in the small company just as effectively as in the big. Every department in the company joins in the program under the leadership of purchasing. See page 64.

What to Do About Christmas Gifts: If you haven't already developed a policy on Christmas gifts now's the time to start working on one. Five approaches already successfully used to handle the problem of gratuities are illustrated on page 61.

Selling Purchasing: To get purchasing's real story across to key people in your plant you've got to get off your chair cushion and go at it aggressively and intelligently. An authority on management relations outlines a six-point program for selling purchasing's philosophy, objectives and accomplishments to future managers. Page 66.

Centralization vs. Decentralization: Whether or not to centralize purchasing in multi-plant companies is one of those endless arguments that can be put to rest when the individual firm decides what's in its own best interest. An article on page 72 discusses why one specialized firm chose centralization.

Preventing Stockouts: On items ordered periodically, you face one of two dangers—occasional stockouts, or overloaded inventories. A scientific technique for advoiding both is described in Spencer Smith's latest article on page 67.



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St. Paul to New York	$1.70	45¢
Denver to San Francisco	$1.70	45¢

Add 10% Federal Excise Tax

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Union Shop for Buyers?

LABOR ORGANIZERS are making a definite effort to unionize industrial purchasing men. (See "Straws in the Trade Winds," October 27th issue.) This is not planned as a part of the already familiar white collar unions of salaried employees. What is now contemplated is a craft union type of organization for purchasing personnel.

To some who have waited overlong for recognition of the purchasing function in their particular company, the idea may appeal. For this is indubitably a tangible recognition of purchasing as a specialized skill, and it promises the force of collective bargaining to achieve job security and rewards commensurate with the responsibilities of the function.

But before responding to this lure, buyers will do well to take a thoughtful look at their goals and the directions they covet for purchasing progress. Whether the goal is expressed in terms of an executive management position or of professional status—and either of these viewpoints is a logical approach to the purchasing job—the craft union approach establishes a roadblock rather than an aid to advancement.

If purchasing people have learned anything at all from their experience in their own voluntary organizations—the N.A.P.A. and the several independent associations serving specific fields of buying activity—it is the fact that purchasing is much more than a craft. True, there are certain basic standards of procedure and performance, but these are but the instruments of a larger responsibility and opportunity that is constantly growing. The notable advances in the status of the purchasing function and the business stature of the purchasing agent are predicated on the concept of a better and broader service to industry, and the shaping of management principles that accord greater significance to purchasing's role in the over-all management scheme.

With this philosophy of purchasing, personal opportunities are as broad as management itself. They are limited only by individual vision and capacity. To sacrifice these opportunities for any lesser, more immediate goal would be shortsighted indeed.

There are other far-reaching implications in this proposal. If we accept the principles of service and of management responsibility in purchasing, as we must, can we countenance even for a moment the frightening economic prospect of a buyers' strike dictated by a union office? Are we willing to limit the scope of the purchasing function on the basis of jurisdictional decisions? Yet both of these possibilities are implicit in the principle of union organization.

We do not believe that purchasing is a proper field, nor a receptive field, for union organization. But since the issue has been raised, we must face it openly and intelligently. And top management must face it too. In those company managements where purchasing has not yet been granted the recognition and rewards that the function warrants, this proposal may be the incentive to get in step with purchasing progress.

Stuart F. Heinritz

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Now, machine parts faster than ever before

NEW LEDLOY 170 TUBING

average machining speed 170 surface feet per minute

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Part produced from Ledloy 170 Tubing for machining-comparison at National Metal Show.

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Center drill	172 s.f.m.	.005″	110 s.f.m.	.005″
Form tool	172 s.f.m.	.0008″	110 s.f.m.	.0008″
Boring tool	172 s.f.m.	.007″	110 s.f.m.	.007″
Cutoff	172 s.f.m.	.0013″	110 s.f.m.	.0013″
Thread	27 s.f.m.	—	20 s.f.m.	—
Tap	18 s.f.m.	—	12 s.f.m.	—
Production time	35 seconds		49 seconds	

* As demonstrated at National Metal Show, Cleveland, 1958.

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What Makes The P.A. Tick?

If you haven't taken a good look at yourself and the nature of your job lately, here's your chance. An industrial psychologist analyzes the purchasing agent as a person and comes up with some interesting ideas to improve his personal and professional status.

By J. H. McPherson

THERE'S AN old and little bit nasty gag about the nature of a purchasing agent that actually has a grain of psychological truth in it. It goes like this:

> "The typical purchasing agent is a man past middle life, spare, wrinkled, bald, intelligent, passive, cold, non-committal; with eyes like a codfish, polite in contact, but at the same time unresponsive, cool, calm, and damnably composed as a concrete post or plaster of Paris cast; a human petrification with a heart of feldspar and without charm or the friendly germ; minus bowels, passions, or sense of humor. Happily they never reproduce, and all of them finally go to Hell."

The germ of truth here is in the adjectives applied to the P.A.: on the positive side—intelligent, composed, polite; neutral—non-committal; on the negative side—passive, cool, unfriendly.

But what other analyses are available? One of the best can be derived from a study of the interests of 103 purchasing agents made by R. H. Mathewson and R. Hebert for the Guidance Center, Cambridge, Mass. The study showed that P.A.'s interests break down this way:

- Above Average Interests: computational, persuasive, literary, clerical.
- Average Interests: musical.
- Below Average Interests: scientific, artistic, social service.

Low interests: mechanical.

What kinds of inferences can we make from this information? We can assume that purchasing agents are not content to be clerks but prefer to persuade or be more active in human affairs. Their literary interests suggest that they possess the verbal skills required for persuasiveness. The interest pattern also suggests they feel least prepared in mechanical and scientific areas and could be defensive about their knowledge in these areas. These results indicate that in the process of getting his facts right and promoting his point of view the P.A. might lose track of a need to be sensitive to the feelings of other people.

What the P.A. Wants

What other data can we find? During the development of the Strong Vocational Interest Test for Men a sample of purchasing agents was studied. An analysis of their interest pattern is also revealing. They seem to like to bargain, buy merchandise, and develop business systems.

To these purchasing agents an opportunity for promotion was the most important factor in their work. Asked to select from famous people the person they would most like to be like they chose Henry Ford.

They prefer a definite salary to a commission. They would rather carry out a program of a superior who is respected than work for themselves. They would rather supervise a department of 300 people engaged in a typical business enterprise than a small group of technical employees.

These preferences suggest that although the purchasing agent wishes to get ahead, he wishes to do so within the secure structure of a large business enterprise headed by a strong man. He apparently does not wish to "pioneer" or be on his own. A continued analysis of their responses to the Strong indicates that they would rather present a report verbally than present it in writing. They believe they have good judgement in appraising values. They consider themselves enthusiastic about their work.

What a purchasing agent would like to hear his boss say about him might be something like this—"He is a good man. He is very loyal to the organization. He expresses himself well and he seems to have an excellent understanding of the total situation. He uses good business judgment and when he speaks you can bet that he's talking from a thorough analysis of the facts. When a new program or method is proposed he is one who will back it enthusiastically. He gets along well with management and I believe he is capable of handling heavier responsibilities."

Dr. McPherson is a staff psychologist with The Dow Chemical Company, Midland Division, Midland, Mich.

How then does he go about his most important task—making buying decisions? A man's decisions are based on these factors —the facts, the analyses, etc., and secondly, his feelings and his attitudes. If this is true, the P.A. will base his decision on the facts and a thorough analysis. But he should tend also to base his decision upon how much his decisions will contribute to his worth to the company. Will such decisions help him be seen as he wishes to be seen by top management?

The P.A.'s Place in the Company

Since the purchasing agent hopes to achieve his goals within the structure of a large business what is his "place" in such a company? Let us take an imaginary situation — a purchasing agent was appointed five years ago. Before that time the assistant plant manager did the buying. The production managers had made it a practice to go directly to the manager's office with their requirements. With the appointment of the purchasing agent much of this opportunity to talk directly to the boss has been taken away from them. Some of them may resent this "middleman."

If we go back to the Kuder Preference Record pattern for the purchasing agent's we recall that they had low mechanical and scientific interests. The production man may feel. "Yes, the purchasing agent has all the facts and figures but he doesn't understand the process. What does he know that will really help me? I'd rather talk to the boss." Such a situation could be uncomfortable for the purchasing agent, who wishes to move ahead in the business and be well accepted by his co-workers.

How is a P.A. apt to behave in such a situation? He is apt to be hypersensitive about anything that affects his status. He may be too concerned about being "in" on everything. He might take minor lapses in communication as definite indications that he is not being used properly. He might make the mistake of becoming an active competitor with the production managers for the bosses' time rather than becoming an active supporter of the production manager's goals. He might talk too much. If we assume that many of the production people are not as skilled verbally as the purchasing agent this might alienate the production manager.

Under such conditions the purchasing agent who is conscientious and dedicated should dig in and get more facts and more reasons to support his arguments. Once he gets the supporting data he may feel that his information is not being properly used. It would be unfortunate if he worked hard getting more information to talk about and his response was more defense from the production manager.

It might also be that the P.A., thwarted in this direction, will take out his aggression on someone he has more power over—the salesman. Arrogant treatment of sales people betrays weakness of personal character and smallness of stature within the company.

Certain recommendations seem pertinent.

1) The purchasing agent should work toward gaining insight into himself and how his own job situation is affecting him so he will not unconsciously "lord it over" some salesman. Such tactics might prevent him from achieving his goal of being of worth to his company.

2) If the purchasing agent can set his own ego needs aside occasionally and do what he can to help the salesman develop he will probably receive invaluable aid from the salesman. If the purchasing agent can do this then he will be making positive strides toward his own goals.

3) The purchasing agent should do what he can to be patient in his struggle for acceptance. Any new profession or new function must go through this "getting acceptance" period. The purchasing agent's ambitions and conscientiousness may contribute to his impatience. Let us hope that his good sense and analytical skills will help him do a wise job of waiting.

After this search for "Who is a purchasing agent?" the following description seems to fit:

He is an intelligent man who has identified himself with big business. He likes to attend to the details of a task but he is not satisfied to be a clerk or an accountant, he wants to move up in management. He is equipped with the analytical skills for the job but he may be a little weak in human relations skills because he is disposed to fact-finding. He is a member of a growing profession which is in its adolescence and struggling for approval.

The purchasing agent needs to learn how to be an effective salesman and yet not permit himself to become so involved with promotion that he ignores attending to the "feeling" dimensions of his work. Nor must he be so persuasive as to forget that "listening" is his main occupation. He will need to develop keen insight into himself so he will be able to meet the needs of those who must recognize him (the production manager and the company boss). He must be aware of his own role as a "developer" of salesmen. As soon as he gets over the anxiety of being "at sea" professionally and turns his talents toward the meeting of other people's needs the quicker he and his profession will grow.

He is eager to participate in training programs and from my observation he belongs to an organization that is about to become a very cohesive, loyal, and enthusiastic group.



"Come back in an hour I can't reach it right now. . ."

Christmas Comes to Purchasing

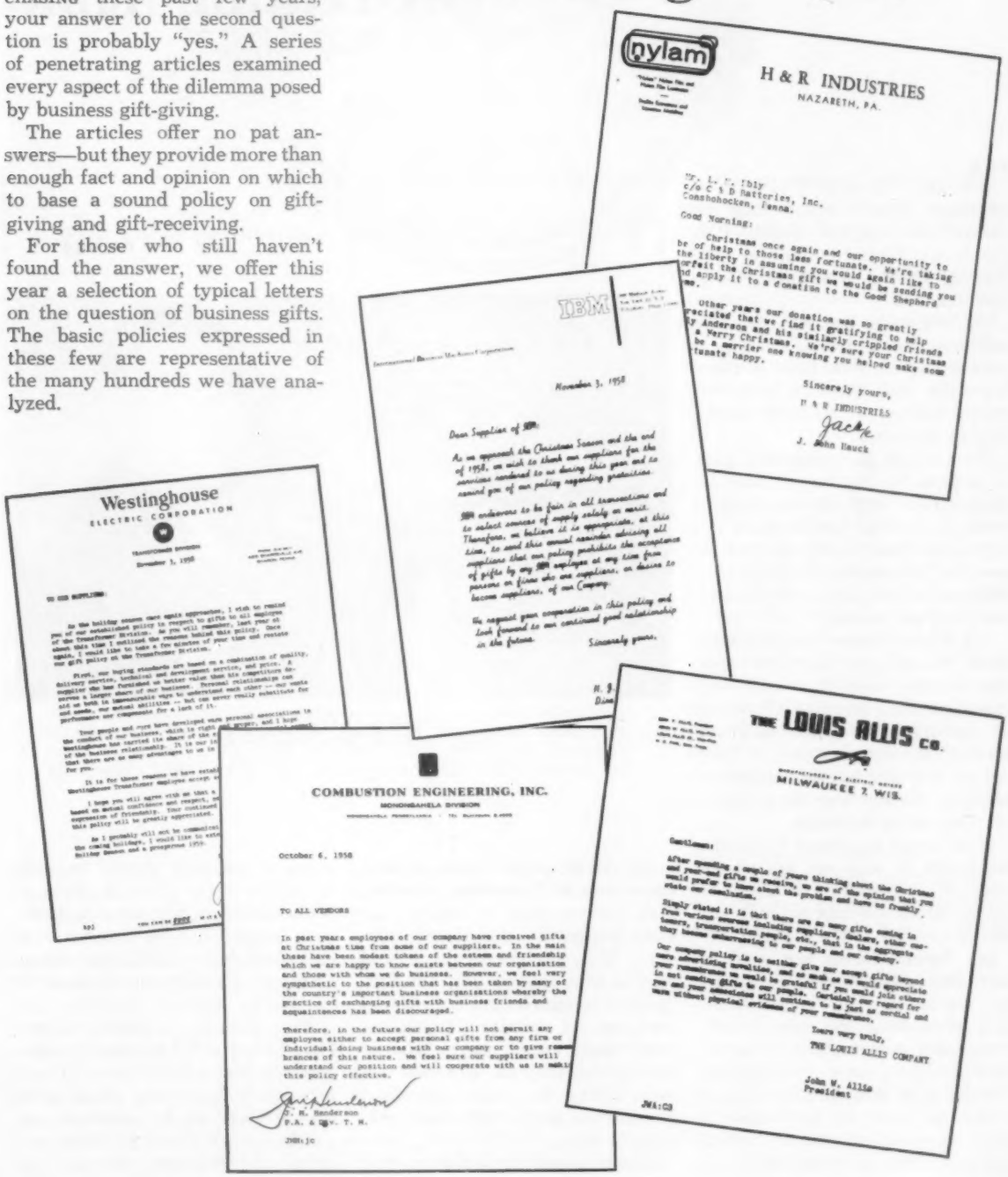


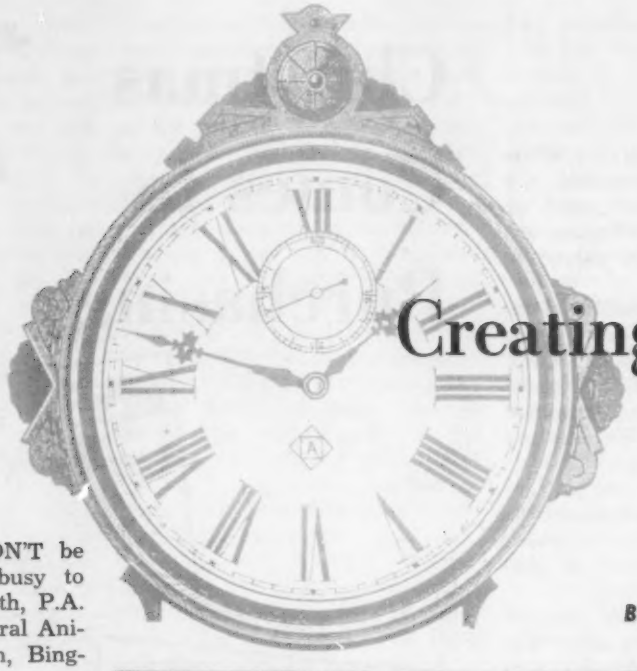
IS THAT man with the white beard and red suit giving you nightmares again this year? Or has the so-called Christmas gift problem been quietly solved in your company?

If you've been reading PURCHASING these past few years, your answer to the second question is probably "yes." A series of penetrating articles examined every aspect of the dilemma posed by business gift-giving.

The articles offer no pat answers—but they provide more than enough fact and opinion on which to base a sound policy on gift-giving and gift-receiving.

For those who still haven't found the answer, we offer this year a selection of typical letters on the question of business gifts. The basic policies expressed in these few are representative of the many hundreds we have analyzed.





Creating Time

By Ned Kellogg

"A BUYER SHOULDN'T be so busy that he's too busy to think." So says Bill Smith, P.A. for Ansco Division, General Aniline & Film Corporation, Binghamton, N.Y.

A long-time booster of value analysis, Smith knows that most cost reduction ideas have to come from his staff. That's why he recently started a "time for better buying program."

Purpose of the four-point plan is to keep his six buyers and assistant P.A. from getting bogged down in details. Smith wants his buyers to have as much time as possible for creative thinking. The ultimate in simplicity, here's how the program works:

(1) Every buyer has a steno-clerk. The reason: Smith believes that buyers waste far too much time answering phone calls. Many of the calls are pointless from vendors checking to see if they had the low bid, or from salesmen taking a chance that they might get some stray business.

With a girl to screen the calls, the buyer is only on the phone when it's necessary. If a call is unimportant, she can politely say that she will pass the message on.

(2) Special forms are used to keep other departments posted on the status of their requisitions. This eliminates the many calls from other departments trying to expedite their own requisitions. The form is sent to the requisitioner as soon as the order is acknowledged and informs him of when the item is expected.



Ansco P.A. Bill Smith
They ought to have time to think

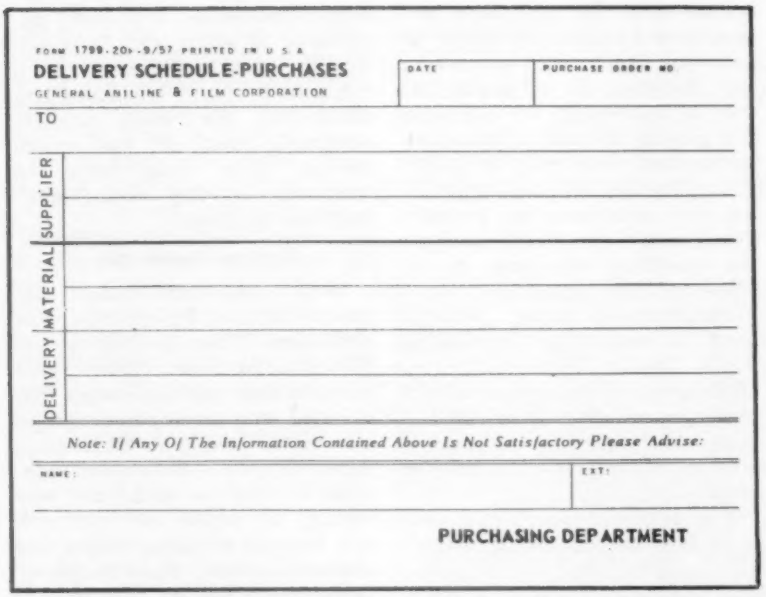
(3) An attempt is made to limit interviews to 5 minutes per salesman. Major time consumer for most buyers is interviewing vendors. This, of course, is a vital part of any buyer's job, but P.A. Smith, though recognizing the importance of vendor interviews, feels that every buyer should have time that he can call his own. That's the reason an effort is made to keep interviews reasonably brief.

Smith is convinced that in most cases a salesman should be able to tell his story within 5 minutes. Naturally, if something of importance comes up, the interview is extended, but usually the salesmen are in and out in about 5 minutes.

Two techniques Ansco buyers have found useful in keeping vendor interviews brief are: (1) not to ask idle questions; (2) answer questions posed by salesmen as succinctly as possible. This enables the salesman to get his

A simple program worked out by Ansco gives buyers more time for creative purchasing. The basic techniques can be used by almost any purchasing department. For Ansco, the program resulted in a saving of nearly $200,000 last year.

for Better Buying



FORM 1799-20b-9/57 PRINTED IN U.S.A.

DELIVERY SCHEDULE-PURCHASES

GENERAL ANILINE & FILM CORPORATION

DATE

PURCHASE ORDER NO.

TO

SUPPLIER

MATERIAL

DELIVERY

Note: If Any Of The Information Contained Above Is Not Satisfactory Please Advise:

NAME:

EXT:

PURCHASING DEPARTMENT

This is the form Ansco purchasing sends to departments which have sent in requisitions. Purpose is to keep the department posted on when it can expect the order to be filled. This technique eliminates phone calls from departments trying to expedite their requisitions.

message across without being sidetracked.

Ansco's attempt to limit the time devoted to vendor interviews doesn't mean the company has a revolving door approach to vendor relations. Smith, with his sincere interest in value analysis, knows how helpful vendor suggestions can be. If a salesman has some ideas that may help the company, the Ansco buyers can be extremely skilled brainpickers. The only reason for limiting interviews is to cut down on the time wasted with "how're ya doin'" calls.

(4) Commodity rotation program. Not a time saver, but it is a basic part of Smith's value analysis program. It's Smith's feeling that shifting buyers from one group of commodities to another gives them a new approach to purchasing.

He points out that there's a natural temptation for any buyer who has been purchasing certain items for a long time to sit back and assume he's doing the best job possible. This isn't always the case.

A buyer who is given a new group of commodities may not be as skilled at the start as the man who formerly had the job, but he is likely to approach the assignment with a "show me" attitude —the essence of value analysis.

P.A. Pitches In

On a more informal basis, Smith tries to free his buyers by pitching in whenever he finds that one of them is getting snarled in details. At the same time he tries to show the buyer shortcuts which might make the job simpler.

Smith is confident that the payoff on his "time for better buying program" will get bigger each year. It's his hope that the buyers will have more time for such nonroutine buying projects as:

- Investigating substitute materials.
- Finding new sources.
- Visiting vendors' plants.
- Establishing minimum quality specifications and proper order quantities.
- Brainstorming with other departments.

Eventually Smith plans to get one or more full-time value analysts in his department. However, he still believes that all buyers should at least be part time value analysts. He's doing his best to give them the time.

Purchasing Coordinates Plant-wide Value Analysis Program

Eight different value analysis committees coached by two full-time value analysts get big savings on $8 million volume of purchases.

By Dean S. Ammer

VALUE ANALYSIS is almost a way of life at General Electric's Meter Department in Somersworth, N. H. Even though annual volume of purchases is around $8 million, Purchasing Agent Mark Taylor has two value analysts reporting to him. And the two analysts actually account for but a fraction of the value analysis that goes on in Somersworth. Taylor himself is an ex-analyst. All four of his buyers have had value analysis training. In addition, there is a lot of value analysis expertise in the plant's manufacturing, engineering, and cost groups.

Team Principle

Organizationally value analysis is literally a team effort at the Meter Department. There are eight different value analysis teams—three for polyphase meters, three for single phase meters, and one each for purchasing and shipping. In all teams but that in purchasing, the chairman is a general foreman in manufacturing. Each team calls on people in engineering, cost, and purchasing for assistance on projects. Purchasing's two value analysts are ex-officio members of all value analysis teams.

Purchasing's value analysis team is headed by Purchasing Agent Taylor. Members include buyers, one of the value analysts, and representatives from cost and manufacturing. An engineer is also on call to give his help as required.

The two full-time value analysts, Lee Samuel and Ed Flynn, keep tabs on the activities of all eight committees to prevent duplication of effort and to stimulate the thinking of each group. "Our job is mostly organizing and channeling the value analysis program; most of the actual savings ideas come from the members of the committees," Samuels declares.



Value Analyst Ed Flynn shows coil on which he has savings idea to Purchasing Agent Mark Taylor and Analyst Lee Samuel.

Savings Goals Set

Most companies budget increases in cost. Few budget cost reductions. They do both at the Meter Department. "Each year we set a cost reduction bogey that is based on a given percentage of our costs," explains Purchasing Agent Taylor. "Whenever possible we try to equal the percentage by which our costs will rise because of higher wages and materials prices." Thus the Meter Department has its own private anti-inflation program—to offset rising costs with savings through value analysis.

It administers the savings program just like ordinary budgeted costs—through the cost department. Bogeys are set for each value analysis committee. Specific projects are worked on and the savings made from them are carefully tabulated in the cost department.

Each month the cost department issues a report showing the performance of each committee against the cost reduction budget. (See report form reproduced in this article.) Actual savings in labor and material are reported both for the month and for the year-to-date. Labor savings in-

clude not only direct labor cost but an allowance for the variable part of the applicable overhead.

Total savings actually made are then compared with savings that have been budgeted. A performance ratio is figured by dividing actual savings by budgeted savings. Purchasing's performance ratio is currently 147%—meaning that, so far, it has made savings 47% in excess of quota. "The performance ratios not only tell you how much you've saved relative to budget but also indicate how fast you're getting savings ideas incorporated into production," Taylor explains.

Crash Programs

What happens when savings quotas aren't being met? One answer is a "task force" to generate the necessary "raw material" of new value analysis ideas. One such task force is now at work giving an extra push to the value analysis effort on polyphase meters. It meets each Monday, Wednesday, and Friday morning. Members include the manager of polyphase engineering, supervisor of manufacturing engineering, the polyphase manufacturing superintendent and his general foreman and Value Analyst Ed Flynn.

The group has ready for them all planning cards, cost information, detail parts, sub-assemblies, and complete assemblies of the meter. The technique used to develop ideas is "brainstorming." Each member of the group tries to approach the problem in a completely uninhibited fashion.

The words "it won't work" or "we tried this years ago" are verboten. All ideas—no matter how wild—are duly noted. The object is to gradually build workable ideas out of the rather remote ones by calling upon the imagination and know-how of each member of the group. The chairman of the meeting must also help guide the group without inhibiting its creativeness.

"In our brainstorming sessions we look for both short and long range ideas. Responsibility for investigating specific suggestions is assigned to an appropriate member of the group and it's up to him to follow through and report his findings at a later meeting," Value Analyst Flynn explains.

Suggestions requiring information from purchasing are naturally checked out by the value analysts. The analysts also frequently talk to suppliers who have new products or ideas to offer. Buyers and analysts work together closely. To keep the analysts from getting "too much 'ivory tower,'" Purchasing Agent Taylor lets them fill in for the various buyers while they are on vacation. By the same token, buyers are trained in value analysis techniques both so they can make better use of the analysts' technical skills and also apply the techniques to value analysis ideas of their own.

METER DEPARTMENT
COST REDUCTION REPORT – MATERIAL – LABOR – BOXING – TRANSPORTATION
SAVINGS AT ANNUAL RATE

Month 1958

COMMITTEE	CURRENT MONTH AT ANNUAL RATE						YEAR-TO-DATE AT ANNUAL RATE					
	Actual Material	Actual Labor	Total Actual	Total Budget	VB%	% to OP	Actual Material	Actual Labor	Total Actual	Total Budget	VB%	% to OP
Dom. Mtr. & Reg.												
Polyphase Meter												
Contributing												
S. P. Sub-Assem.												
S. P. Fin. A. & T.												
Sockets & Dia C.												
Purchasing												
TOT. MAT. & LABOR												
Boxing Materials												
Transportation												
TOTAL DEPARTMENT												

YEAR TO DATE EFFECT ON PROFITS

COMMITTEE	CURRENT MONTH						YEAR-TO-DATE					
	Actual	Budget	Variance Amount	Variance %			Actual	Budget	Variance Amount	Variance %		
Dom. Mtr. & Reg.												
Polyphase Meter												
Contributing												
S. P. Sub-Assem.												
S. P. Fin. A. & T.												
Sockets & Dia C.												
Purchasing												
TOT. MAT. & LABOR												
Boxing Materials												
Transportation												
TOTAL DEPARTMENT												

R. E. Hankinson, Manager-Cost Accounting

Value analysis savings are budgeted at General Electric's Meter Department. The cost department uses this form to report performance.



Materials Manager E. C. Driscoll (standing) watches purchasing's value analysis committee brainstorm some cost reduction ideas.

Purchasing's Role in Company Training Programs

By taking an active part in company training and orientation programs, purchasing can actually make its own job easier.

By Matthew Beecher

YOU HAVE a wonderful opportunity to sell purchasing where it counts most—in your own company. How? By taking an active part in your organization's training and orientation programs.

It requires time to work up an effective presentation for meetings of this kind. You may even find that you first have to sell the training director on the importance of purchasing. The results, however, are well worth the effort. There's no better way to get the cooperation you need from other departments than by explaining the purchasing function fully. Once everyone understands how purchasing operates, knows what its problems are, and has a clear picture of the way purchasing fits into the overall organization, your job will be much easier.

To make certain that purchasing's part in training and orientation programs is really successful, it's important that the top purchasing executive make the presentation. If you don't show that you think what you're doing is important, nobody else is going to think it's important.

If you're wondering exactly what sort of presentation you should make, here's a six point outline which may help pinpoint the topics you might want to cover:

(1.) Explanation of the Purchasing Role
Explain purchasing's objectives, company purchasing policy—the function of the department—its history—the organization and make-up of the department. It may also be helpful to digest and distribute copies of the purchasing manual with technical data deleted.

(2.) Responsibilities of Buyers
Define the responsibilities of the buyers — their specific function—basis for decisions in vendor selection — value analysis—research necessary for action—cost analysis factors—reciprocal purchases.

(3.) Vendor Selection
Explain use of more than one vendor per commodity—cost factors—quality, location, dependability—evaluation—the gamut of vendor relations.

(4.) Make or Buy
Make or buy decisions—responsibility, authority, reasons—subcontracting activities.

(5.) Paperwork
When covering this topic it's helpful to have large legible visual aids made of the forms and requisitions used by personnel outside purchasing. Explain why multiple copies are needed—where and why **kept**—length of time and reason—legal aspects of buying contracts—explain the overall record keeping system insofar as it relates to your audience.

(6.) Inter-departmental Relationships
Show tie-in with other functions such as sales, finance, production, quality, engineering, research and development, industrial engineering, personnel and top management. Stress the need for cooperation, accuracy, promptness and understanding.

Purchasing Problems

It may also be helpful to trace the course of a typical purchase order from start to finish. And to wind the program up, tell the group about some of the problems that purchasing faces such as shortages, strikes, lead times, engineering changes, problems in negotiation, etc. You can usually tell how successful you've been in your presentation by the number of questions you get when you're finished—the more the better of course.

Mr. Beecher is a respected management consultant who, for a number of years, was with the American Management Association.

How to Preserve Close Control With Periodic Ordering

Most major production items are ordered periodically—once a month or once a quarter. Explained here is a scientific technique for preventing stockouts and minimizing inventories of such items.

By Spencer B. Smith

PERIODIC ORDERING is a commonly used alternative to the order point-order quantity system which was discussed in the last two articles.[1]

Under the order point-order quantity system, the size of order is fixed and the time of placing orders is allowed to vary depending upon fluctuations in demand. With periodic ordering the time of placing an order is fixed and the size of order is varied. For example, under periodic ordering we might place an order for an item on the first of each month. The size of the order would vary with inventory position and anticipated requirements.

Periodic ordering is usually the better system when one or more of the following conditions prevail:

(1) The item is expensive, is ordered frequently and warrants tight control.

(2) Inventory balances are only determined periodically making an order-point system impractical.

(3) Many items are ordered from the same supplier. Ordering jointly on a periodic basis reduces transportation costs and paperwork.

(4) Withdrawals from inventory are made only at long periodic intervals. For example, the item may be used in production and one month's production requirement may be withdrawn at the beginning of each month.

(5) Production of the item utilizes an important part of the supplier's capacity, and he must know at stated intervals how much he is to produce in order to manage his operations efficiently.

(6) Quantity discounts are available even though the order quantity may be scheduled for partial shipments.

1. This is the final article in a series of three by Mr. Smith on the subject of economic order quantities. The other two articles appeared in the November 10 and the November 24 issues of PURCHASING.

Choosing the Review Period

One major problem in setting up a periodic ordering system is that of choosing the review period, or length of time between placing orders.

Let us first consider a simple case where demand is continuous and is known in advance. Table I shows demand in units by months over the past two years for an item that is used in assembly. We will assume that the assembly schedule is fixed seven months in advance. Lead-time on the item is one month.

Table I

Demand for a Purchased Inventory Item by Months

Month	Demand	Month	Demand	Month	Demand
1	6	9	0	17	5
2	2	10	3	18	6
3	4	11	7	19	5
4	6	12	9	20	8
5	12	13	7	21	9
6	5	14	3	22	4
7	6	15	9	23	3
8	8	16	10	24	7

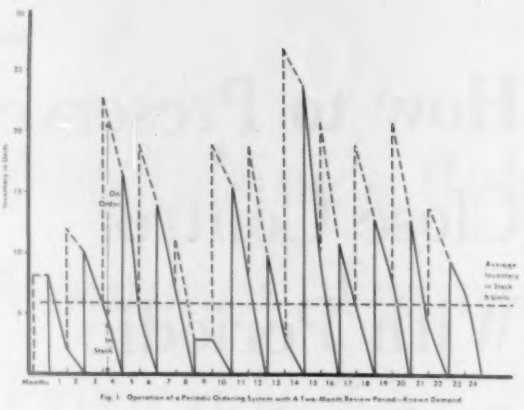


Fig. 1. Operation of a Periodic Ordering System with A Two-Month Review Period—Known Demand

During the 24 month period total demand was for 144 units, giving an average demand of six units per month.

We will arbitrarily choose a review period of two months and see how the system would have operated over the past two years. The inventory balances which would have resulted are shown in Fig. 1.

A month prior to the beginning of Month 1 we would have placed an order for eight units, the sum of the requirements for Months 1 and 2. The eight units would have been received at the beginning of Month 1 and issued to production during Months 1 and 2 to give us a zero balance at the end of Month 2.

Meanwhile, at the beginning of Month 2 we would have placed an order for ten units to cover our requirements during Months 3 and 4, and the cycle would have been repeated.

Now it would be of interest to see what costs were associated with choosing the two-month review period. We will assume a unit cost for the item of $20, a cost of placing an order of $10, and a cost of carrying inventory of 24% per year.

Our annual ordering cost would be six orders multiplied by $10 or $60.

Our average order quantity would be 12 units and we would have an average inventory of half that, or six units. The value of the average inventory will be 6 units at $20 or $120. The cost of carrying this inventory will be $120 multiplied by 24% or $28.80.

The total of annual costs which would be affected by our choice of review period would then be $60 plus $28.80 equals $88.80.

As we selected the two-month review period arbitrarily, it may be that another review period would give us a lower total cost. Costs for a number of review periods are shown in Table II.

From Table I, we can see that increasing the review period from two to three months would have reduced ordering costs by $20 and increased carrying costs by only $14.40, for a net reduction in total costs of $5.60. The three-month review period gives the lowest total cost and this would be our choice.

The Optimum Review Period

We can calculate the optimum review period directly in the following way.

$$TVC = 12S/T + TACI/24$$

Cost of ordering + *Cost of carrying inventory*

where TVC = total annual variable costs in dollars

S = variable cost of placing an order and receiving a shipment in dollars

T = review period in months

A = annual use in units

C = unit cost in dollars

I = annual cost of carrying inventory in percent

By methods of calculus the total annual variable cost will be a minimum when:

$$T = \sqrt{288S/ACI}$$

In the example above, S = $10; I = 0.24; A = 72; and C = $20. Therefore, the optimum value of T will be given by:

$$T = \sqrt{(288 \times 10)/(72 \times 20 \times 0.24)} = 2.9$$

For practical purposes, we would probably set

Table II

Calculations of Total Annual Cost with Known Demand

Review Period in Months	Numbered Orders per Year	Cost of Ordering at $10 per Order	Average Inventory in Units	Average Inventory in Dollars at $20 per Unit	Cost of Carrying Inventory at 24 Per Cent	Total Cost of Ordering and Carrying Inventory
1	12	$ 120	3	$ 60	$ 14.40	$ 134.40
2	6	60	6	120	28.80	88.80
3	4	40	9	180	43.20	83.20
4	3	30	12	240	57.60	87.60
5	2.4	24	15	300	72.00	96.00
6	2	20	18	360	86.40	106.40

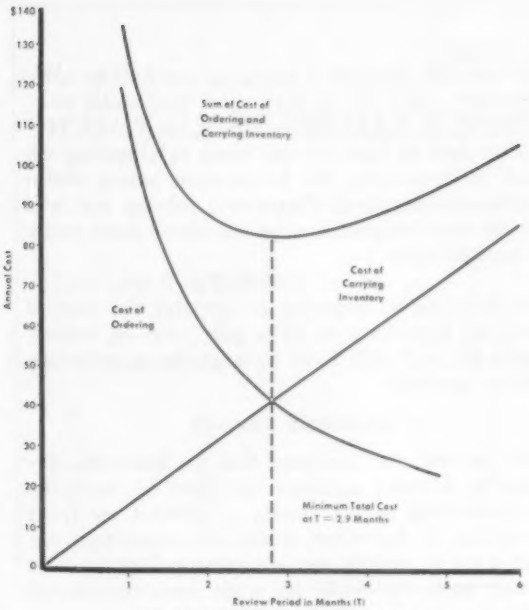


Fig. 2. The Relationship Between Annual Cost and Review Period

the review period at three months.

This solution is shown graphically in Fig. 2.

Table for Review Periods

To simplify the administration of a periodic ordering system it is desirable to select a number of review periods of various lengths and assign one to each inventory item. For example, we might want all items to have review periods of either 1, 2, 3, 4, 5 or 6 months.

A method of assigning review periods to items may be developed as follows.

Suppose we were ordering an item every month. We would be placing twelve orders per year and carrying an average inventory of one-half month's supply. If sales declined, the value of the average inventory and also the cost of carrying the inventory would decline. With the cost of carrying inventory going down, at some point it would pay us to change to a two-month review period—the reduction in ordering costs would start to more than offset the increase in carrying costs which would result.

If we were to determine the value of annual use at which the ordering and carrying costs under one and two month review periods were just equal, we would know that items with a value of annual use above this figure should have a one-month review period and those with a value of use less than this figure should have two-month or longer review periods.

This break-even value of annual use for any two review periods, T_1 and T_2, may be solved for using our equation for total variable cost as follows:

$$12S/T_1 + T_1ACI/24 = 12S/T_2 + T_2ACI/24$$

Solving for AC we get:

$$AC = 288\ S/T_1T_2I$$

Now as S = \$10 and I = 0.24,

$$AC = 12000/T_1T_2$$

Using this formula we can calculate the break-even values of annual use between one and two month review periods, two and three month review periods, and so forth. These calculations are presented in Table III.

Fig. 3 illustrates this solution graphically for three break-even points. It will be seen, for example, how between values of annual use of \$2000 and \$6000, the total variable cost for a review period of two months is lower than for any other review period. Therefore, for items having a value of annual use between these figures, we would use a two-month review period.

Table IV has been constructed from the break-even values calculated in Table III. Given the value of annual use for an item, it enables us to select the proper review period.

In the example considered earlier, usage was 72 units at \$20 each giving a value of annual use of \$1440. From Table IV, we see that this value falls on the third line, \$1001 to \$2000. The table tells us to use a three-month review period.

Discrete Withdrawals

In the discussion above it was assumed that withdrawals from inventory were continuous. In some cases, however, withdrawals may be discrete and it would be of interest to see how rules for selecting review periods can be developed under those conditions.

For example, we might have only one withdrawal per month as material for a month's production requirements is withdrawn from stores and sent to the manufacturing department.

Let us say that we select a four-month review period, and we receive our four-month quantity from the supplier just prior to an issue to manu-

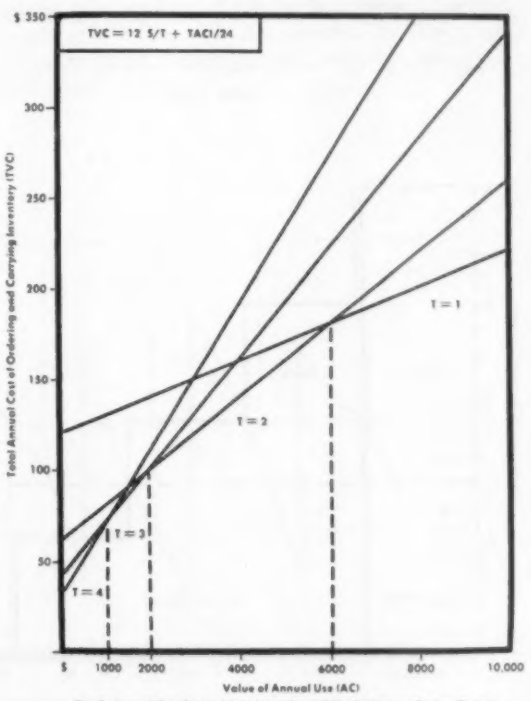


Fig. 3. Annual Cost Related to Value of Annual Use for Various Review Periods

Table IV

Review Periods

Value of Annual Use From	To	Review Period
$6001	Up	One month
2001	$6000	Two months
1001	2000	Three months
601	1000	Four months
401	600	Five months
Up to	400	Six months

facturing. Then our inventory would behave as shown in Fig. 4.

We receive a shipment of four months' supply at the start of the first month and immediately issue one month's supply to the factory. During Month 1 we carry three months' supply in stock. At the beginning of Month 2 we issue another month's supply to the factory and carry two months' supply. During Month 3 we carry one month's supply, and during Month 4 we have a zero balance.

Our average inventory will be $(3 + 2 + 1 + 0)/4$ or 1½ months' supply.

Still using T to designate our review period in months, our average inventory can be expressed as $(T - 1)/2$ months' supply.

Then total variable cost per year will be given by:

$$TVC = 12S/T + (T - 1)ACI/24$$

As before, to calculate the break-even value of annual use between any two periods, T_1 and T_2, we can equate the total variable costs associated with T_1 and T_2 and solve for the value of annual use, AC.

$$12S/T_1 + (T_1 - 1)\ ACI/24 = 12S/T_2 + (T_2 - 1)ACI/24$$

If we add the cost of carrying one half month's inventory, ACI/24, to both sides the result is:

$$12S/T_1 + T_1ACI/24 = 12S/T_2 + T_2ACI/24$$

This gets us back to the same relationship we used in developing the break-even points under continuous demand. Therefore, solving we will get the same expression for the break-even value of annual use:

$$AC = 288S/T_1T_2I$$

If the cost of ordering is $10 and the cost of carrying inventory is 24% per year as before, Table IV will still hold as a guide to selecting review periods.

Uncertain Demand

So far we have assumed that we know the demand in advance so there has been no necessity for providing safety stocks to protect us from stockouts. If, however, demand is uncertain we will want to modify our ordering policy in such a way as to provide us with some assurance against running out of stock.

With this in view we will express our order quantity as follows:

Order Quantity = Average Demand During Leadtime Plus Review Period + Safety Stock — Available Inventory.

Here the available inventory would be the sum of what is in stock plus what is on order at the time a new order is about to be placed.

Returning to the example presented in Table I, demand averaged six units per month and leadtime is one month. If we used a review period of three months, average demand during leadtime plus review period would be 24 units.

Following from the discussion in the last article in this series, if demand can be assumed to follow the Poisson distribution, then a convenient method for expressing safety stock is:

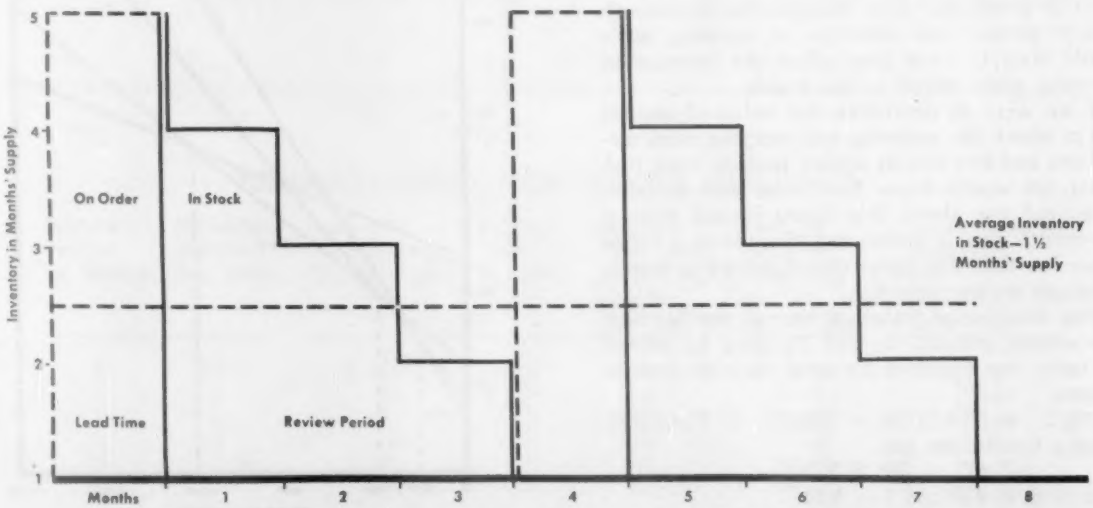


Fig. 4. Operation of a Periodic Ordering System with a Four Month Review Period—Demand Known and Discrete Withdrawals

Table III

Calculations for Breakeven Values of Annual Use

Review Periods T_1	T_2	T_1T_2	Breakeven Value of Annual Use Between T_1 and T_2 $(12000/T_1T_2)$
1	2	2	$ 6000
2	3	6	2000
3	4	12	1000
4	5	20	600
5	6	30	400

$$\text{Safety Stock} = K\sqrt{\text{Average Number of Demands During Leadtime Plus Review Period}}\left(\text{Average Size of Demand}\right)$$

Let us say that we want to restrict stockouts to an average of once every ten years. From Table IV in the last article we find that if we place orders every three months and wish to restrict stockouts to one every ten years, we should choose K equal to 1.96.

Then, assuming demands on our inventory are all for one unit, the safety stock will be $1.96\sqrt{24}$ (1) or ten units.

Our order quantity will then be 24 plus 10, or 34 units, less whatever units are available at the time the order is being placed.

Fig. 5 shows how the system would have operated during the past two years using a maximum available figure of 34 units.

Under conditions of known demand we selected the review period which would give us the lowest sum of ordering costs and costs of carrying turnover inventory. Under conditions of uncertain demand the cost of carrying safety stock will also be a factor.

Table V shows the calculations of total annual cost of carrying turnover and safety stock inventory plus the cost of ordering for review periods of one through six months. In this case, it is seen that the optimum review period is again three months.

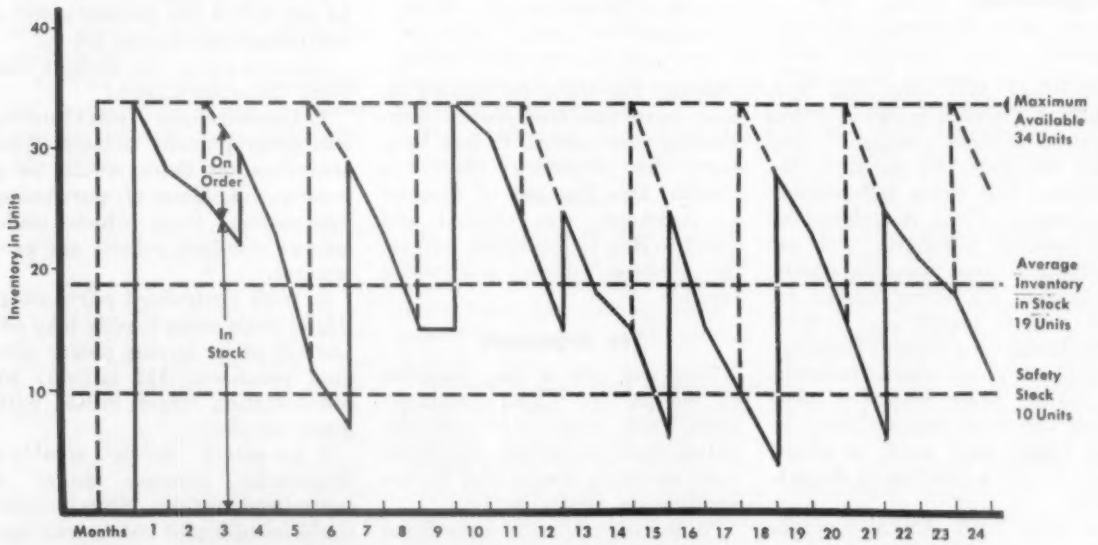


Fig. 5. Operation of a Periodic Ordering System with a Three-Month Review Period—Uncertain Demand

The Case for Centralized Purchasing

There's no single answer to the argument about whether it's better to centralize or decentralize buying. The merits of each system must be judged in the light of a company's size and nature. Here are reasons why a one-product company chose centralization.

By John Van Deventer



Both Director of Purchases Ray Hamilton (seated) and Assistant Director Jim Maguire feel that centralization makes for better purchasing.

SHOULD WE centralize purchasing? That's a question Alpha Portland Cement Company asked itself last year. At the time, the company had three independent purchasing offices. A Chicago office handled purchasing for the company's three western plants; an Easton, Pa. office bought for four eastern plants; and a third office bought for Alpha's Birmingham plant. There was no common purchasing head. Since the three offices operated independently of each other, they were, in effect, three separate purchasing departments.

In May, 1958, Alpha management decided to centralize purchasing. The three purchasing offices were dissolved and all purchasing was moved to one location, the corporate offices in Easton, Pa. The job of director of purchases was created and given to Ray L. Hamilton, formerly western office purchasing agent.

The Arguments

This was not a snap decision on the part of Alpha's management. Both sides of the centralization-decentralization argument were carefully considered before deciding on centralization.

On the negative side were these arguments:

1. A centralized purchasing department would get bogged down in communications and administrative detail.

2. Centralized purchasing couldn't keep up with what was going on at Alpha's nine plants.

3. The time required for mailed requisitions to go from the plants to a central purchasing office would, in general, be longer than to go to decentralized offices. Thus it would take longer to place an order. Alpha management was afraid this would cause plant storekeepers to increase their inventories.

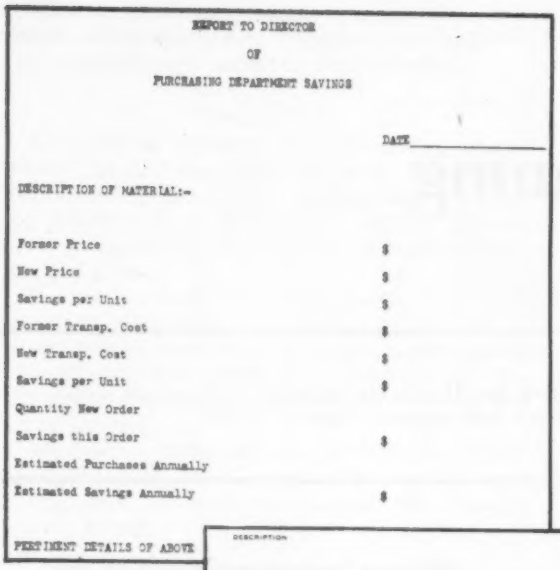
4. Local supply houses might be left out of the picture under a centralized purchasing set-up.

Stacked up on the positive side were these arguments:

1. Decentralized purchasing was geographically isolated. With centralization there would be a greater funneling of purchasing information, from which could emerge standard policies and procedures.

2. With centralized purchasing, Alpha could more readily take advantage of its buying power (annual purchases, $12 million) by concentrating larger orders with fewer suppliers.

3. Inventory levels wouldn't necessarily increase under a centralized set-up. Storekeepers could be educated not to wait until the last minute to place an



REPORT TO DIRECTOR

OF

PURCHASING DEPARTMENT SAVINGS

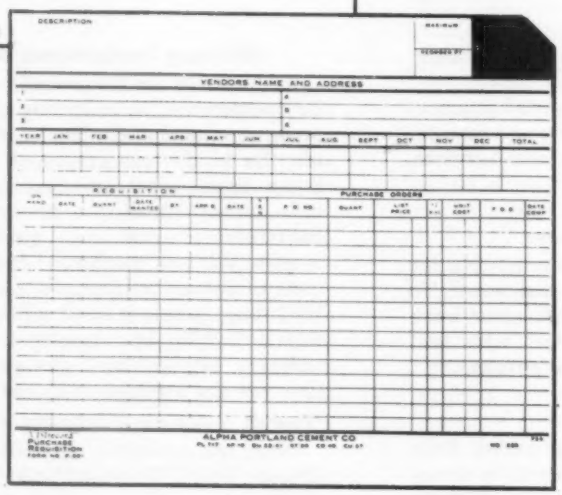
DATE _____

DESCRIPTION OF MATERIAL:-

Former Price	$
New Price	$
Savings per Unit	$
Former Transp. Cost	$
New Transp. Cost	$
Savings per Unit	$
Quantity New Order	
Savings this Order	$
Estimated Purchases Annually	
Estimated Savings Annually	$

PERTINENT DETAILS OF ABOVE

Putting all buyers under one roof has enabled Hamilton to get a value analysis program going. This is a monthly report made by every buyer on savings projects.



DESCRIPTION

VENDORS NAME AND ADDRESS

YEAR JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC TOTAL

REQUISITION

PURCHASE ORDERS

ALPHA PORTLAND CEMENT CO.

Centralized purchasing will help purchasing in setting up inventory levels. Levels will be set first on all repeat items, except raw materials. These are now carried on traveling requisitions, which are sent to central purchasing from Alpha plants.

order. They could be told that what counts is the inventory level when goods arrive—not when the order is placed.

4. With centralized responsibility, management could go to one man for answers to its purchasing problems.

The Weighing In

But, as Director of Purchases Ray Hamilton points out: "People can argue all day about the advantages and disadvantages of centralization and both be right. A company has to weigh the arguments in light of its operations."

And that's what Alpha management did. It weighed the arguments in the light of two operational facts: 1. Alpha makes only one product—Portland cement. The process and most of the machinery used in the different plants to make cement is the same. Thus purchasing problems are the same at all plants. 2. Most cement companies of Alpha's size have centralized purchasing.

The conclusion: centralized purchasing was best for Alpha.

The Results

Is centralized purchasing paying off for Alpha? "Yes," says Hamilton. He cites these improvements that have been made in Alpha purchasing since centralization:

Buying is now on a commodity basis. Jim Maguire, the assistant director of purchases, and three buyers divide up the buying this way: Maguire does the large volume buying, raw materials, fuel, etc. Another buyer handles soft goods, chemicals, etc. The second handles steel items. The third buys non-ferrous items, and electrical supplies.

Buyers are responsible for material from the time they get a requisition until the storekeeper receives the material in good shape and the invoice goes to accounting.

"With commodity buying," says Hamilton, "buyers develop greater skills in their fields. It's also a lot easier for salesmen. They call on one buyer at a centralized office rather than several at outlying offices."

Better inventory management. At present inventory levels are being set by each plant's operating group. But purchasing hopes that it will soon be playing a bigger role in controlling inventory.

"With centralized purchasing," says Hamilton, "we're in a good position to control inventory levels. We'll start by establishing levels for items covered by traveling requisitions. It's difficult to set levels on the total inventory. You can do better by breaking down inventory into categories."

Value analysis program in operation. A monthly value analysis report is now turned in by each buyer. The report includes any savings through use of substitute materials, standardization of special items, changing vendors, ordering in more economical quantities, or reducing transportation costs.

"We don't count savings brought about through competitive bidding," says Hamilton. "However, when a buyer increases the quantity of an item bought and negotiates a lower price with the supplier, we do count that as a value analysis savings."

Hamilton points out in conclusion that these purchasing improvements resulted largely from the fact that under centralized purchasing both he and Maguire have more time to sit back and plan for the department. "Before we were always in too much of a rush," he explains. "But with centralized purchsing we eliminated considerable duplication of effort, and thus, without adding to the staff, got more time for think-type purchasing."

Long Range Planning And the P.A.

Editor's Note: This is the second part of a two-part series. The first article appeared November 24, 1958.

By Eugene S. Page

What is it that can produce such results? Only a job well done:

Here is the entire scope of industrial procurement in its job of obtaining operating and maintenance materials, equipment, parts, and services. Let me explain:

Purchase, Rental, or Lease

Unfortunately "purchasing" means buying for ownership. But this is entirely too restrictive. To do his whole job—the industrial P.A. must have authority to buy or rent—whichever in his best judgment meets the goal of "efficient purchasing".

Outside Sources

Goods and services may be acquired from "outside". First, however, the president, or someone delegated, must make this financial decision involving the use of money, machines, facilities, and personnel.

Purchasing here is vital. In this well known "make or buy" problem it is the P.A. who must present what "efficient purchasing" can do for comparison with the technology and economics of internal production.

Remember, that purchasing has many sources, but your management has only two: procurement and production. What opportunities there are here for service, and increase of business profit!

Selected

You have to tell the vendor, or lessor, what he is to furnish or perform. But this results from a second decision based on both technology and finance. Who makes it? Those having engineering and operating responsibility.

And they tell the P.A? Yes, but only after consultation. This is the value analysis or "product valuation"* problem in which purchasing can be a leader in materials, manufacturing methods, simplification, standards, costs, and new ideas. Truly this is a major part of "efficient purchasing."

Minimum Performance Requirements

In business and manufacturing the problem, as everywhere, is in stating the issues involved, or determining goals. Beginning with sales, what are the kinds and grades of finished products? From these, what are necessary manufacturing refinements? And into procurement. What are the minimum essentials of quality or performance of materials and machines? It is only economic to meet minimum requirements, not to exceed them. Why buy stainless steel when the regular kind will do? Why buy totally enclosed motors for ordinary applications? Do you buy white wall tires for the average sales car?

*Product Valuation—Purchasing, August, 1954.

Often the questions, and their answers, are not obvious at all. Purchasing has a job to do here in development of standards for materials, methods, and packaging. The P.A. can bring in ideas for substitutes, simplification of design, and less costly types of fabrication.

The whole idea is to purchase for performance, based on engineering and monetary determinations. The problems:

(1) Establish actual requirements
(2) Buy up to this point, but not beyond
(3) Fix responsibility for performance in vendor and/or buyer

Economic Time Limitations

In purchasing time is of the essence.

a) Operations must anticipate requirements so that the P.A. may do his job of competitive negotiation;

b) Quantities relate to time, with the ever present goal of optimum balance in the economics of volume buying, commitments for present and future delivery, and inventories;

c) commitments based on shipping schedules, and expediting to assure supply, are basic procurement jobs;

d) Discounts for early payment give high rates of return on money.

Efficient purchasing meets constant time demands, and based on future planning moves vendors, materials, and money for economic gain.

Competition

A byword in industrial procurement is competition. The first stage has been won,—Purchasing has competed with internal production for a buying decision. Now inquiry and negotiation will develop the source offering most in quality, service, and price.

Market research in procurement has been shown to strengthen sales. But equally, it is vital to a thorough knowledge of materials and specifications, industrial economics, geographical distribution, primary and secondary sources, and trade practice.

We live in a competitive world. And your P.A.'s ability to obtain the market's best economic buys is one assurance that your company can compete —for a Profit.

Total Cost

Quality—service—price. These are the fundamentals in procurement. But price for what? The common interpretation says this is the amount to be paid for purchase or lease—F.o.b. shipping point, delivered, or installed. This serves as part of a buying agreement, and is easily determined.

But cost is a better word. Price is only a part. After all, your company wants to acquire goods and services for the lowest total cost, and that's that. This, however, is more obscure, and difficult to measure, being the sum of the cost of procurement, possession, and use.

Your total purchasing cost is the sum of:

Cost of Goods

a) Total net prices for goods and services purchased and leased, delivered, installed, or constructed as ordered; plus

Cost of Action

b) Cost of the department, in terms of salaries, training, travel, and overhead.

Within limits, these costs may be juggled. Cut your department to the bone, and prices paid surely will rise. Or double the number of buyers and prices may go down somewhat. There is a point of diminishing returns in either direction.

But compromise. Organize and train a department, and the P.A., so that the total of prices and purchasing expense together reach an irreducible low.

Cost of Possession

Possession costs money! Try to stop using something, but keep it and protect it. Deterioration and obsolescence go right ahead. People are paid to measure, sort, move, and watch. Money invested produces no business elsewhere, and draws no interest. Space, facilities, heat, and light serve no productive purpose.

Whether by ownership or lease, possession is wasted unless the building, facilities, machinery, raw materials, or supplies serve an active profit-seeking business. Inventory stock, for example, may cost, each year, up to 25% of its average value.*

*Management of Industrial Inventory, by Benjamin Melnitsky, Chilton.

Possession is assurance of supply, but not of profit. Truly, the P.A. must balance the cost of goods, and the cost of possession, on a tightrope.

Notice also how market research and purchasing know-how again are the tools to gauge the future and commit for supplies that others hold at their expenses.

Cost of Use

Impact upon the P.A. of cost of use is constant and greater than any other. It governs what he buys, and influences the make or buy decision. It is present constantly in value analysis, standards, and specifications.

When you purchase for performance, your decision is based not only on what the material or equipment will do but how much it will cost in doing it. Do you act on the basis of quality, service, and price? To be sure. Then cost of use is one of the elements of quality. For quality is always measured by performance and performance, in part, by cost.

Your Future

There you have it. Income minus cost equals profit. And you, the P.A., are on both sides of the fence all the way.

This message is for the future. If we in Purchasing expect to be a member of top management today,—we must become a part of their long range plans. How?—

(1) Communicate Tell the president and his staff what purchasing can do for reduction of total costs, and for profit. Unquestionably they do not realize what opportunities there are. You have to sell purchasing, like anything else.

(2) Organize Deliver the goods you have promised. Organize and budget for the job of negotiating, buying, and expediting, plus market research, standards, value analysis, public relations, economics and coding and accumulation of internal and external purchasing statistics—all the activities of efficient purchasing.

(3) Research You never know enough! Today no company can long compete successfully without research—technical economic, and marketing. Purchasing needs all three, conducted at least in part by its own staff in a budgeted program.

(4) Statistics Record and report! Information is evidence of experience, and the life blood of industry and the purchasing negotiator. But how to code, accumulate, process, and publish purchasing data periodically and selectively through requisitioning, purchase, payment, and punch card accounting?

This is our story. Sell purchasing for profit into expanding long range plans—for success now and for the future.

Oral Contracts Can Be Dangerous

While an oral contract is legal, it isn't necessarily enforceable. Certain conditions have to exist before the courts will enforce an oral contract. P.A.'s should know what these conditions are.

by Lyle Treadway

NOT TOO LONG ago, few purchasing agents had order forms printed with uniform terms and conditions. Any written agreement between buyer and seller often took the form of exchanged letters. Legal implications depended on the language the parties used in their writings.

Today, business is done with standardized forms containing much "fine print" intended to protect both parties.

Unfortunately, purchasing agents are still not entirely free from the legal problems and hazards arising from unwritten understandings and unconfirmed orders. One reason: modern business demands many orders be placed in a high-speed, informal manner by telephone.

What the Law Says

The law related to contracts not in writing is contained in the Uniform Sales Act (law in 34 states), and the new Uniform Commercial Code (adopted only in Pennsylvania (1953) and Massachusetts (1958).)

It may be helpful to cite two sections of the Uniform Sales Act which relate to contracts not in writing. These sections are particularly pertinent to the purchasing profession. The first section gives the rule. The second section gives the exception to the rule.

(1) A contract to sell or a sale of goods . . . of the value of five hundred dollars or upwards will not be enforceable by action unless: a—the buyer accepts part of the goods and actually receives them.

Or, b—the buyer gives something in earnest to bind the contract, or in part payment.

Or, c—unless some note or memorandum in writing of the contract or sale is signed by the party to be charged, or his agent in that behalf.

(2) The first section does not apply when: the goods are to be manufactured by the seller especially for the buyer and are not suitable for sale to others in the ordinary course of the seller's business.

Provisions of the Uniform Commercial Code on contracts not in writing are substantially the same. The most important difference lies in the effect of part payment made, or part shipment accepted by the buyer. Under the Sales Act this opens up the entire oral agreement to proof and enforcement. The Commercial Code limits this exception to the amount actually paid or received.

Here's the Meat

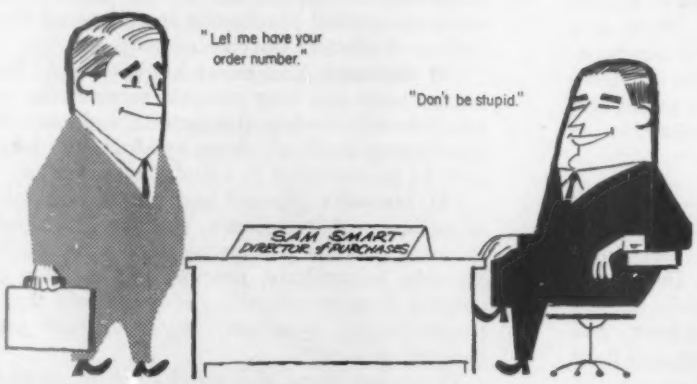
Both statutes make contracts with a value or price in excess of a certain amount unenforceable. This does not mean that such contracts are void or illegal. But it does mean that (with the exceptions named in the statute) the courts will not come to the aid of either the buyer or the seller to enforce performance.

Likewise, keep in mind that the seller or buyer must prove the oral contract by sufficient evidence—even though it comes within one of the exceptions in the statute. For example, suppose an article manufactured by the seller would be suitable only for needs of the alleged buyer. The seller must still show that the buyer had orally agreed to purchase the article. He would also have to show with sufficient certainty the quantity and price which the alleged purchaser had orally agreed to accept and pay.

Other Points

The states vary as to the maximum price or value above which an oral contract to buy or sell cannot be enforced at law. In Arkansas an oral contract of $30 is unenforceable. In Ohio contracts up to $2500 may be orally proven. However, the greatest number of states place the limitation at $500.

The dollar limitation is deter-



The salesman's possession of the order number doesn't of itself make an oral contract enforceable.

For More Information Write No. 200 on Inquiry Card—Page 32→



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Take a variety of suppliers, each with a product you need—pumps, control, motors, kilns, power equipment, etc. This combination of suppliers adds up to long conference hours coordinating equipment design, delivery schedules and erection services. Remember, too, phone calls, telegrams, and voluminous correspondence!

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The law makes oral contracts with a value or price in excess of a certain amount unenforceable. In most states this amount is $500.

mined by totalling the buyer's entire order, although individual items may be less than the statutory amount. Thus, an oral order for pipe and fittings totalling over $500 was held unenforceable, although, of course, some individual items were of small value.

Purchasing agents frequently have salesmen ask for an order number. It would probably come as a shock to many of these salesmen to learn that possession of an order number does not in itself constitute a binding sale—not if the value of the order is above the statutory limit. Until the written purchase order is formally issued and accepted by the seller, the buyer may cancel. Even after he has orally placed the order, the purchasing agent can (with the few exceptions noted in the statutes) take a second look.

The Big Exception

The exception to the oral contract rule applies when: goods are manufactured **by the seller** for the special requirements of the buyer, and such goods are not suitable for sale to others in the ordinary course of seller's business.

This exception has been criticized by legal scholars and the courts as leaving an opening for fraudulent claims. Obviously, the fact that the seller manufactures an article suitable only for a particular buyer does not, of itself, prove that the buyer requested him to do so. Even if the seller can convince the court that manufacture was at the buyer's request, the quantity ordered still remains to be proven. Despite such criticism, however, the special manufacture exception is a firmly established rule of law. Purchasing agents should be reasonably familiar with it.

Various questions concerning the application of this exception to particular situations have been before the courts. A considerable body of case law has developed defining and limiting the exception.

In a recent Vermont case, a housewife orally ordered complete kitchen cabinets for her home from a local hardware store. The local dealer arranged for the manufacturer's representative to take measurements in the customer's kitchen and then placed an order with the manufacturer based on these specifications. When the cabinets were delivered to the hardware dealer the customer came to the store, inspected them, expressed her satisfaction, but requested the dealer to store them until space could be made in her house. However, she failed to order them out and, after several months, repudiated the purchase and refused to take delivery or pay for the cabinets.

Here, then, was a situation in which the order was not in writing, but the goods were clearly manufactured only for the buyer and not suitable for sale to others. The hardware dealer, however, did not recover. The court placed a strict interpretation on the oral contract rule, pointing out that the statutory exception applies only when goods are manufactured "by the seller." It does not apply, the court said, if the seller does not manufacture but procures the goods from another, although they are for the special purposes of the buyer.

There is much legal authority to support the Vermont decision. In three other jurisdictions it has been held, for example, that sellers could not enforce oral agreements to buy limestone specially cut, iron gates specially made, and shoes manufactured to special requirements where the sellers did not themselves produce the goods, but obtained them for the buyers from third parties.

How to Determine

Difficult distinctions are sometimes necessary to determine whether, in the language of the statute, the goods are "suitable for sale to others in the ordinary course of the seller's business." If they are, then, of course, the seller cannot enforce the sale unless the buyer's order is in writing.

An action brought in a U. S. District Court in Massachusetts indicated that the plaintiff seller was a manufacturer of textile mill machinery and that the alleged buyer had negotiated for various machinery to be installed in its cotton textile plant in Virginia. While the machines were of standard design, the buyer requested certain changes for his particular requirements.

After the basic specifications were determined, the buyer orally offered a total price of $28,000 and the seller accepted, sending a written proposal. Although, subsequently, there were lengthty discussions about details of the machinery, the buyer at no time put his agreement to purchase in writing.

The court held for the buyer on the basis that his undertaking was oral and not within the special manufacture exception of the Uniform Sales Act. The court em-

(Please turn to page 135)

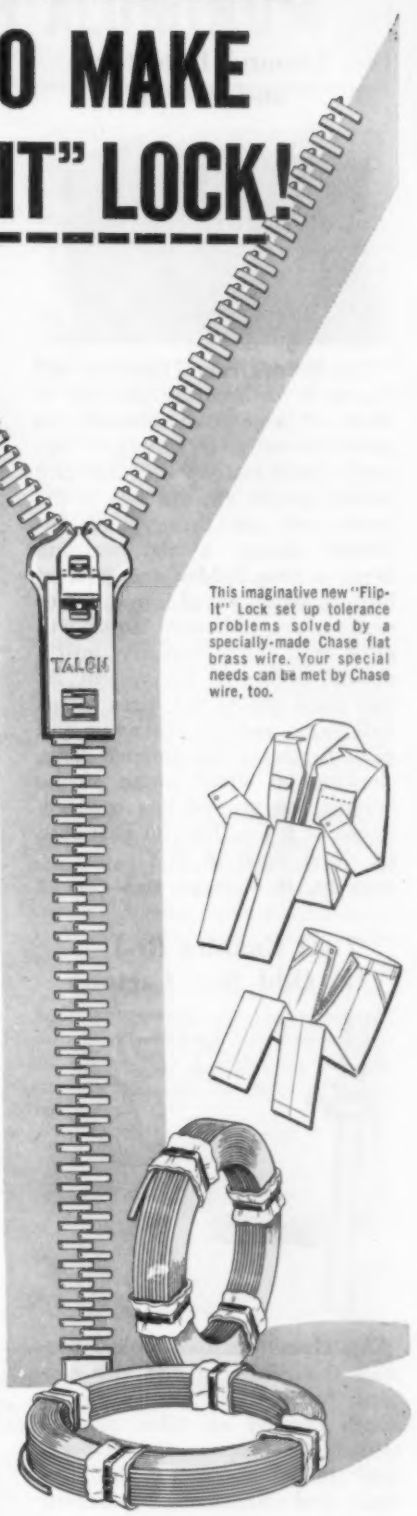
IT TAKES "MADE TO MEASURE" FLAT BRASS WIRE TO MAKE A NEW TALON "FLIP-IT" LOCK!

Talon, Incorporated finds Chase precision wire tolerances make new zipper for sports and work clothing possible

Heart of Talon Fastener's new Flat-Top Zipper is the imaginative new design of a "Flip-It" Lock. Its production depends on the economical mass output of several intricate, close-tolerance parts—slider body, spring and a special cam-action pull. So Talon asked Chase Brass & Copper Co. wire service to go to work on the production problem—involving prong length, spring fatigue, permanent set, and a critical edge tolerance.

Chase's answer was a flat brass wire with a perfect round edge, "made to measure" to meet Talon's specific needs. The finished fastener resists damage in laundering and pressing, stands up to the toughest wear conditions in work and sport clothes.

You, too, can have the assistance of the Chase Wire Service Man in meeting your application problems. Call your nearest Chase Representative, or write to Chase at Waterbury 20, Conn.



This imaginative new "Flip-It" Lock set up tolerance problems solved by a specially-made Chase flat brass wire. Your special needs can be met by Chase wire, too.

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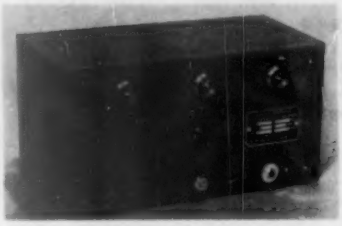
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Products and Ideas

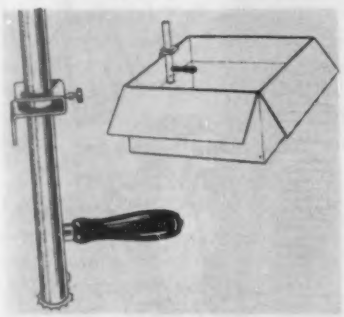
Ground Detector and Alarm



The Brunt Ground Detector and Alarm is an accurate sentinel to warn of accidental grounds on power lines. It is simple of operation and easily wired into any power system. On the face of the instrument are three phase indicator lamps, a red warning lamp, a fuse holder and a reset button. When wired into a power system, the indicator lamps will glow with equal intensity until a ground occurs on the system. At this point one of the three lamps will go out and the other two will glow brighter, the dimmed lamp showing on which phase of the system the ground has occured. Fredicks & Co., Inc., 30 East 39th St., New York 16, N.Y.

Write No. 18 on Inquiry Card—Page 32

Tool Enables Re-Use Of Odd Size Cartons



An aluminum tool makes possible the re-use of odd size cartons by scoring box walls at depth desired so sides can be folded to proper size. Operation takes a matter of seconds and eliminates dangerous cutting or costly special-box orders. The tool is called a Carton-Sizer. It is made of polished aluminum with a lifetime scoring wheel. Depth of scoring is perfectly controlled by adjustable depth gauge with set-screw. Shaped plastic handle makes operation easy. Markay Products, 18 East 11th St., Kansas City, Missouri.

Write No. 19 on Inquiry Card—Page 32

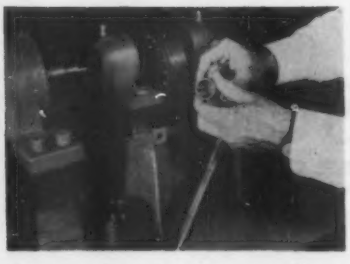
Self-Locking Threaded Insert



A self-locking threaded insert requires only standard coarse thread taps and standard bolt or screw driver for installation. Other characteristics are: simple removal by screw driver; re-use, any number of times; 100 percent resistance to vibration; extreme resistance to heat, cold, moisture, solvents, and aging. E-Z LOK inserts are designed for use in aluminum, magnesium, plastic or cast iron tooling operations, where threads are re-used and subject to wear, or with aluminum patterns and molds for fiberglas lay-up, where tool disassembly is required. Tool Components, Inc., 12923 Budlong Avenue, Gardena, California.

Write No. 20 on Inquiry Card—Page 32

Powder Metal Bearing Cheaper Than Porous Bronze



A powder metal, general-purpose sleeve bearing is more economical than porous bronze, and is not dependent upon strategic copper. Comprised chiefly of iron powders, the ferrous-base bearings have demonstrated performance equal to porous bronze. Can be used on a wide range of products where corrosion is not a problem and mechanical strength requirements are within tolerable limits. Suggested uses include bearing and bushing applications on home appliances, fractional horsepower motors, power tools, light machinery, instruments, light vehicles, communication equipment and other products. A built-in service factor makes the bearings especially suitable for oscillating and reciprocating motion where the nature of the movement prevents the build-up of an oil film. Amplex Division, Chrysler Corp., P.O. Box 2718, Detroit 31, Michigan.

Write No. 21 on Inquiry Card—Page 32

Volt-Ohmmeter Precludes Misfiring



Lightweight, compact, high-sensitivity, low-energy volt-ohmmeter is used for testing electrical circuits in the field or factory where explosive or sensitive contacts and components are involved.

The Igniter Volt-Ohmmeter is capable of measuring continuity, resistance and stray d-c voltage encountered in extremely sensitive electrical circuits. It is safe for testing explosive cartridges, missile firing circuits, circuits in guided missiles prior to launching (with the warhead installed), TNT detonators and electrical circuits with current-sensitive components such as platinum contacts and conductive liquids. Pesco Products Division, Borg-Warner Corp., Bedford, Ohio.

Write No. 22 on Inquiry Card—Page 32

WHAT'S NEW WITH ALUMINUM

A page of new products and availabilities for the interest and information of the purchasing agent. If you would like detailed literature on each subject, mail the coupon below.

1. *Bright finish welding wire*

Now an entirely new type of *bright* welding wire for MIG and TIG welding processes is available for high strength welding . . . Kaiser Aluminum's King* brand welding wire.

It's available in a complete line of welding rods and electrodes in a broad range of alloys—including new all-purpose alloy 5183, developed specifically for welding the high strength magnesium-bearing aluminum alloys 5083 and 5086.

The consistent high quality of King brand bright finish welding electrodes and rods is achieved by rigid production and inspection controls, including radiographic and destructive testing of actual welds.

*Kaiser *INert Gas*

2. *Wider sheet, heavier plate*

The production of wider sheet, heavier plate and bigger coils is now made possible by the opening of Kaiser Aluminum's new 168-inch, 4-hi reversing hot mill and 100-inch, 5-stand continuous mill at Ravenswood, W. Va.

Sheet and plate in width to a maximum of 144 inches and finished coils weighing up to 8500 pounds are now included within final availabilities. Foil in gauges as light as 0.00025 inches and widths to 66 inches is also in production.



Giant 10,000 lb. aluminum ingot being lifted from direct chill casting station at Kaiser Aluminum's Ravenswood plant. Next stop—the hot line!

3. *Rolled tooling plate*

Produced for today's tool design requirements, Kaiser Aluminum's new Rolled Tooling Plate opens up exciting new avenues to cost cutting.



A typical large aircraft assembly fixture. Use of aluminum tooling plate provides greater portability and simpler set-up without need for overhead cranes or lift trucks.

Reasons: (1) It's machined both sides to provide a flat base for accurate layout and measuring; (2) it offers a finer grain structure, freedom from porosity, higher strength, finer finish and better welding characteristics; (3) it weighs only one-third as much as steel, handles easily without the need for expensive positioning equipment.

Among the growing list of industries profiting from new Kaiser Aluminum Tooling Plate: aircraft, electronics, appliance, automotive, plastics, foundry and marine.

4. *High strength yet ductile casting alloys*

Now, by using one of Kaiser Aluminum's new high purity casting alloys—X357, A356 or C355—permanent mold and sand castings can be designed and produced to be competitive with more expensive fabricated products including forgings.

By holding iron and other impurities to a minimum, and with Kaiser Aluminum's close metallurgical production control, these superior casting alloys permit high temperature artificial aging to develop full strength potential without brittleness.

For example—castings made of our high purity alloys, can be produced with increased tensile and yield strengths or redesigned to have the same strength characteristics with significant weight reductions.

KAISER ALUMINUM

THE BRIGHT STAR OF METALS

Please send me detailed literature on the subject circled below:

1. Bright Finish Welding Wire
2. Sheet And Plate
3. Rolled Tooling Plate
4. High Purity Casting Alloys

Kaiser Aluminum & Chemical Sales, Inc.
Dept. 975, 919 N. Michigan Avenue
Chicago 11, Illinois

NAME_____

COMPANY_____

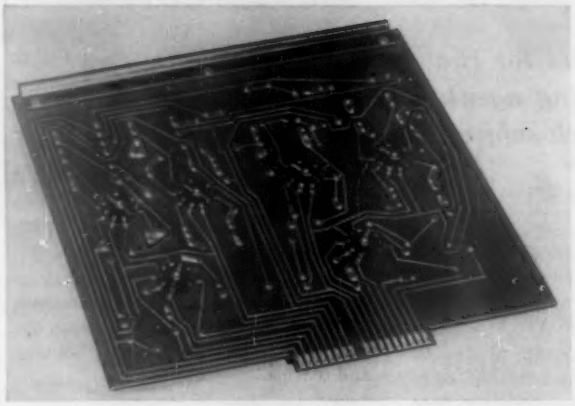
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CITY_____ ZONE____ STATE_____

P

For More Information Write No. 202 on Inquiry Card—Page 32

CDF PLASTICS AND FIBRE



Heart of the best printed circuits—

CDF Di-Clad® LAMINATES

Printed-circuit dependability begins at the base, and that's where CDF excels. Only CDF offers the combination of Teflon* resin and glass fabric cloth for use under sustained temperatures of 180°C. In addition, CDF offers a full range of Di-Clad laminates to meet every known demand of printed circuitry. High foil-bond strengths withstand soldering heats, reduce assembly rejects. Full line of Di-Clad grades — glass fabric and paper-base — with Teflon*, epoxy, and phenolic resins. Assembly costs go down when the job is done on CDF Di-Clads! Write for CDF Di-Clad Folder DC-58.

*duPont trademark for its tetrafluoroethylene resin

CDF PRODUCTS OF TEFLON

CDF produces an unequalled range of electromechanical parts of Teflon* — such as small- and large-diameter thin-wall tubing, glass-fabric laminates, flexible insulating tapes, sheets, rods, tubes, and finished parts. Now also available: cementable Teflon in supported and unsupported forms; can be cemented to itself and to most other materials with commercial adhesives. If you have a potential use for a product made from unsupported or reinforced Teflon — from tapes to high-heat-resistant printed-circuit laminates — your CDF sales engineer is the man to call. Meanwhile, write for the new CDF Teflon Folders.

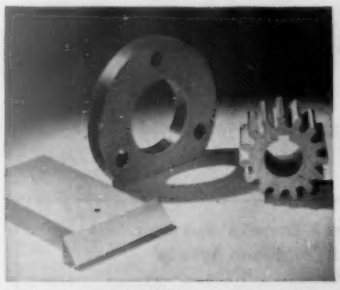
*duPont trademark for its tetrafluoroethylene resin



CDF HIGH-HEAT ELECTRICAL TAPES

Flexible insulating tapes for hand or automatic winding, made of glass-supported silicone rubber, silicone varnish, Micabond, with and without backings; and unsupported and glass-supported Teflon*. Color identification — CDF tapes of Teflon are made in the standard identifying colors. Call your CDF sales engineer, or write for test samples.

*duPont trademark for its tetrafluoroethylene resin



DIAMOND VULCANIZED® FIBRE

keeps costs down

Known for over sixty years as the standard of quality in fibre, Diamond® Vulcanized Fibre is made in many grades (bone, fish-paper, trunk, commercial, built-up) and is available in sheets, rods, tubes, strips, rolls, fabricated parts, and formed specialties. Write for Catalog DVF-58.

LOW-COST VULCOID is Resin-impregnated Vulcanized Fibre. Vulcoid (made only by CDF) is an intermediate insulation material. It combines the desirable arc-resistance and mechanical properties of vulcanized fibre with many of the good qualities of a phenolic laminate. UL-approved as Class A insulation in electrical equipment. Bearing applications requiring high precision have been successful with Vulcoid. Write for Bulletin V-58.



CDF CELORON® MOLDED PRODUCTS

Celoron is a molded-macerated and/or combination laminated base bonded with phenolic resins. High strength, long life, and low cost are the characteristics of molded electrical or mechanical parts made from CDF Celoron®. Its good electrical properties make Celoron an ideal molded insulator, while its high mechanical strength makes it an excellent material for gears, couplings, intricate loom parts, etc. Write for CDF Catalog C-58, or contact your nearest CDF sales engineer.

PURCHASING NEWS

CDF DILECTO® LAMINATED PLASTICS

for electrical and mechanical applications



DILECTO®, made in scores of grades, means high-quality laminated plastics made for rigorous duty in electrical, electronic, and mechanical equipment. Characteristics vary with the grade, so get the expert assistance of your CDF sales engineer.

RESINS AVAILABLE IN DILECTO:

Phenolic
Heat-resistant Phenolic
Silicone
Epoxy
Melamine
Polyester
Teflon*

BASES FOR DILECTO:

Glass Fabric
Nylon Fabric
Asbestos Fabric
Cotton Fabric
Glass Mat
Felted Asbestos
Non-woven Cotton Mat
Paper (either cellulose or asbestos)

CDF gives fast technical and delivery service on sheets, tubes, rods, or complete fabricated parts of Dilecto plastics. Write for Catalog D-55-C.

*duPont trademark for its tetrafluoroethylene resin

For a better motor or generator—

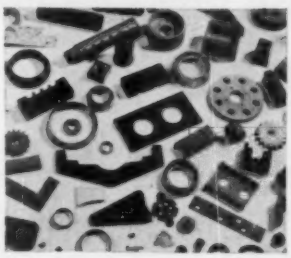


CDF MICABOND® INSULATING PARTS

CDF mica V-rings and slot liners insulate America's best-selling motors and generators. Finest-quality mica splittings insure highest heat-resistance and insulation under severe operating conditions.

Forms of Micabond® available: Sheets; Tubing; Tapes (with backings of cotton, silk, paper, woven glass, and Mylar† polyester film); Fabricated Parts of various shapes such as Mica segments. CDF supplies and fabricates Micabond to your strictest specifications — on time and at low cost. Call your CDF sales engineer or write for samples of Micabond and Catalog M-58.

†duPont trademark



PLASTICS FABRICATION BY CDF

SAVES YOU TIME, MONEY, WORRY

Let CDF's well-equipped machine shops assume the complete responsibility for delivery of your fabricated parts as specified and on time. No time is lost at CDF between raw-material production and final fabrication. When you let CDF do it for you, there's no problem of shortages, rejects, waste. Undivided responsibility pays off for you!

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BOSTON SALES OFFICE GRanite 2-2150
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6108 W. Lincoln Ave.
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610 Plymouth Bldg. -3388
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110 North 40th St.
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320 East 3rd Street

Canadian Representative
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46 Hollinger Rd., Toronto 13, Ontario, Can.

CONTINENTAL-DIAMOND FIBRE

A SUBSIDIARY OF THE Bakelite COMPANY • NEWARK 41, DELAWARE

For More Information Write No. 203 on Inquiry Card—Page 32



New *M/R* Corrugated Boxes

stay strong when wet...even under water!

Important news about Hinde & Dauch's new M/R (moisture resistant) corrugated boxes: Hydrocooler tests show M/R boxes shed water; stay strong and durable for packing and shipping all kinds of wet products. Moreover, M/R boxes stack high and straight. They save packing and handling time, provide remarkable product protection. Initial tests indicate shipping damage to peaches reduced 50%. And the smooth, clean surfaces of new M/R boxes can be colorfully printed with your brand message. H & D Package Engineers are ready to design an M/R corrugated box for your product. Write, wire or phone for complete information today!

HINDE & DAUCH

Division of West Virginia Pulp and Paper Company

AUTHORITY ON PACKAGING • SANDUSKY, OHIO

15 FACTORIES • 42 SALES OFFICES



HINDE & DAUCH Division of West Virginia Pulp and Paper Company
5813 Decatur Street, Sandusky, Ohio

Please rush me samples and detailed literature on new M/R corrugated board.

Name_____

Company_____

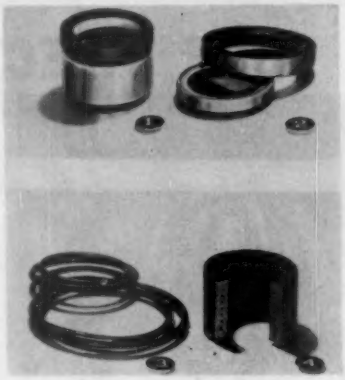
Address_____

City_____ Zone_____ State_____

For More Information Write No. 204 on Inquiry Card—Page 32

Products

Viton for Packagings, Seals and Gaskets



Viton, the broad temperature range polymer, is being used to manufacture vital packings, seals and gaskets by The Garlock Packing Company of Palmyra, New York. Garlock has developed basic formulations of Viton with durometer hardness ranging from 60 to 90. These will be used in manufacturing "G" rings, Chevron packings, Klosure oil seal elements, Mechanipak mechanical seal bellows, sheets, molded and extruded shapes for application in which maximum resistance to deterioration by heat, oils, solvents and many corrosive liquids is essential. Viton is unequalled for service against oils and solvents at temperatures over 400F., and it is highly resistant to ozone and weather deterioration. The Garlock Packing Company, 429 Main Street, Palmyra, New York.

Write No. 23 on Inquiry Card—Page 32



"You were dozing off!"

For More Information Write No. 205 on Inquiry Card—Page 32→



ARTIST'S INTERPRETATION

There is no substitute for stainless steel in outer space

From the intense cold of outer space to the heat of a jet engine, Stainless Steel is the one metal that will stand up. In rockets, missiles and supersonic aircraft, Stainless Steel resists heat, friction and corrosion, has a high strength to weight ratio and maintains its structural integrity under the most severe conditions.

Specify McLouth high quality sheet and strip Stainless Steel. McLouth Steel Corporation, Detroit 17, Michigan.

McLOUTH STAINLESS STEEL



"CREATIVE PACKAGING" BY INTERNATIONAL PAPER

BOOSTS RUUD PACKAGING OUTPUT 135% PER MAN-HOUR

In 1956, Ruud Manufacturing Company asked International Paper to make a critical evaluation of its water heater packaging operation.

International Paper—using its famous tube and cap design—developed a new container for Ruud to replace wooden shipping crates then being used.

Result—immediate savings of 23% in container cost . . . 135% increase in packaging output per manhour.

No matter what you ship, "Creative Packaging" by International Paper can help you ship it faster, safer, more economically. For full details, mail coupon below.

Your most dependable source of supply . . .

INTERNATIONAL PAPER
CONTAINER DIVISION — NEW YORK 17, N.Y.

International Paper Co., Room 1404 PM, 220 East 42nd St., N.Y. 17, N.Y.

I would like to have full details on "Creative Packaging" by International Paper

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For More Information Write No. 206 on Inquiry Card—Page 32

Products

Cold-Heading Machine For Miniature Parts



Cold-Heading machine is designed for quick and accurate cold-heading of miniature parts. Electrical contacts, rivets, pins and similar parts as small as .012″ diameter x .016″ long can be produced on the machine. The OMEGA "00" is a standard solid die, double stroke heading machine which will cut to length, head and form between 80 and 120 pieces per minute, all to close tolerances. The maximum wire diameter accommodated is .070″ with most alloys and up to .120″ with soft aluminum. Part lengths may range from .016″ to .400″.

Hollowing of rivets as well as heading may be performed in one operation. The depth of the hole, depending on the material being used, is equal to 3 times the wire diameter in aluminum and 1½ times in copper and brass.

The Robert E. Morris Company, 5004 Farmington Avenue, West Hartford, Conn.

Write No. 24 on Inquiry Card—Page 32

Air Gage Checks Miniature Bearing Race Preload and End Play



A quick-responding, highly accurate gage for checking the preload and end play of ball bearings. Known as the Air-O-Limit Preload—End Play Gage. Checks both statically and dynamically

(*Please turn to page* 88)

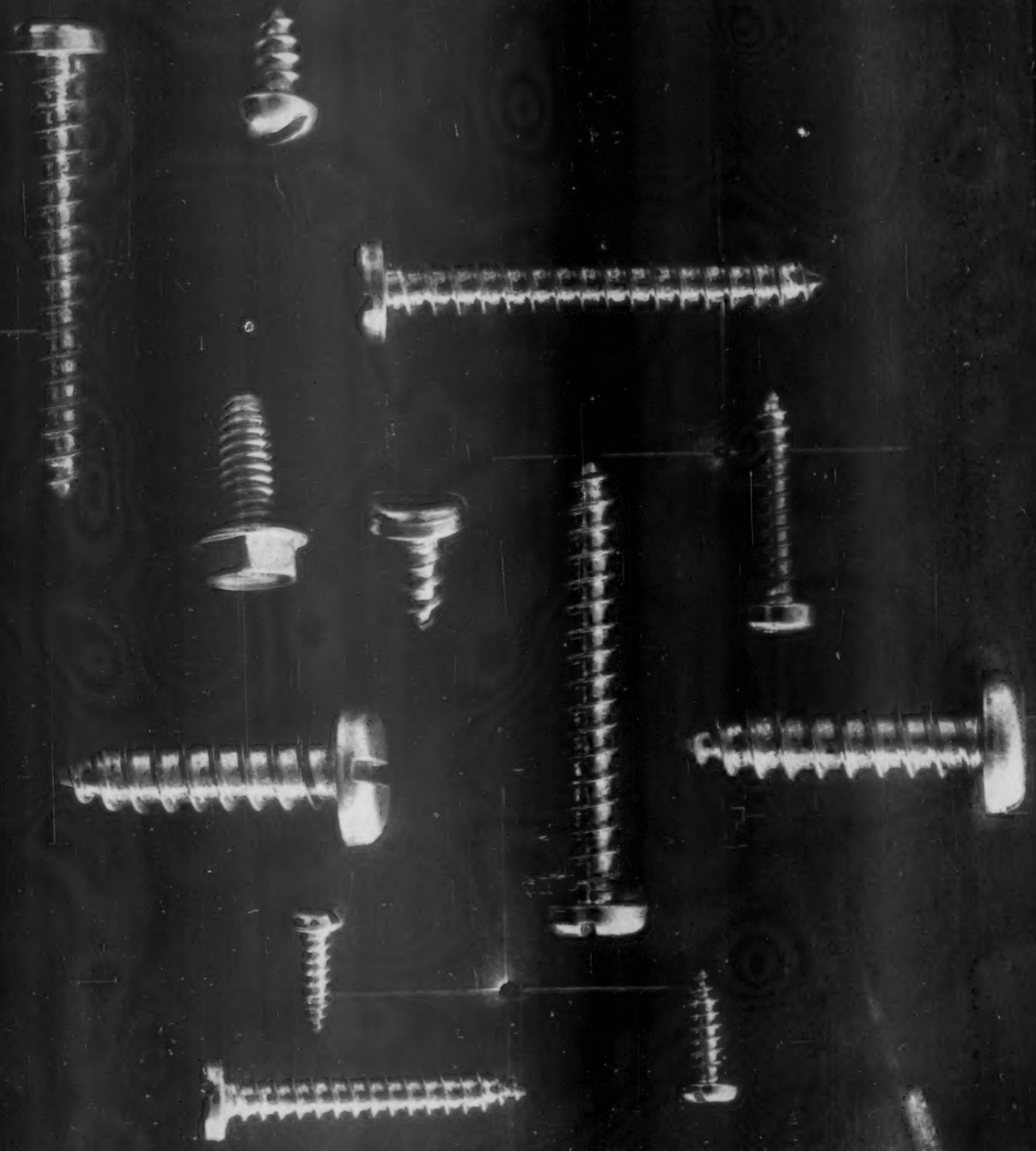
For More Information Write No. 207→ on Inquiry Card—Page 32

Correct fastener selection can keep costs down! You may be using a "special" fastener where a "standard" – at less cost – is available to do the same job. These savings may be considerable, particularly on production line products. How do you know when a "standard" will do just as well or even better? Just ask your nearest Lamson & Sessions salesman. They have all the information at their finger-tips... or can get it fast. There's almost a hundred years worth of fastener information in Lamson's files. The answer to your fastener problem is ready and waiting for you!

L&S

The Lamson & Sessions Co.

5000 Tiedeman Road, Cleveland 9, Ohio • Plants at Cleveland and Kent, Ohio • Chicago • Birmingham





GROUND SUPPORT COMPONENTS by LAVELLE

Radar consoles, shelters, and heat exchangers for portable aircraft heaters are typical of the components fabricated by Lavelle for ground support of jet aircraft and missiles.

Lavelle facilities are especially geared for meeting the new and varied needs of manufacturers of servicing, control and ground support equipment. Lavelle production specialists, using advanced methods and facilities, are ready and able to produce intricate, light sheet metal weldments and assemblies to exacting specifications. Lavelle designed and built tools, production control, craftsmanship and rigid inspection assure consistent component quality . . . dependable job delivery.

Lavelle has the capabilities to produce ground support system parts and assemblies you need . . . when you need them. Call on Lavelle for the finest in specialized fabricating services.

Write for illustrated brochure describing Lavelle's services in detail.



Lavelle

LAVELLE AIRCRAFT CORPORATION • NEWTOWN, BUCKS COUNTY, PA.

Between Philadelphia, Pa., and Trenton, N.J.

For More Information Write No. 208 on Inquiry Card—Page 32

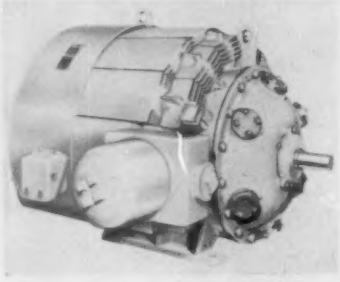
Products

(Continued from page 86)

the relative "face flushness"—commonly called "stick in" and "stick out"—of miniature and instrument size ball bearing races, such as those used in aircraft instruments and controls for guided missiles. Bearings from .040" bore through 1" OD can be checked to a direct reading of 20 millionths of an inch on the preload scale, and five ten-thousandth of an inch on the end play scale. Pratt & Whitney Co., Inc., West Hartford, Conn.

Write No. 25 on Inquiry Card—Page 32

Heat Exchanger Motor With Wide Speed Range



D.C. Heat Exchanger motor is designed to provide a wide adjustable speed range. Also for constant speed applications. Available in ratings from 25 to 300 HP. Constructed in an explosion-proof enclosure for hazardous installations, and with standard enclosed construction for protection against abrasive airborne particles, dirt, coolants, moisture, oil vapors and other severe atmospheric conditions. The Heat Exchanger motor is designed for indoor or unprotected outdoor service in the oil and chemical, cement, paper, rubber, and steel industries, and for machine tool, materials handling, etc., applications. The range of adjustable speed offered by this D.C. motor extends from 5% of base motor speed by armature control (constant torque) to 400% of base speed by field control (constant horsepower). Louis Allis Co., 427 E. Stewart St., Milwaukee 1, Wis.

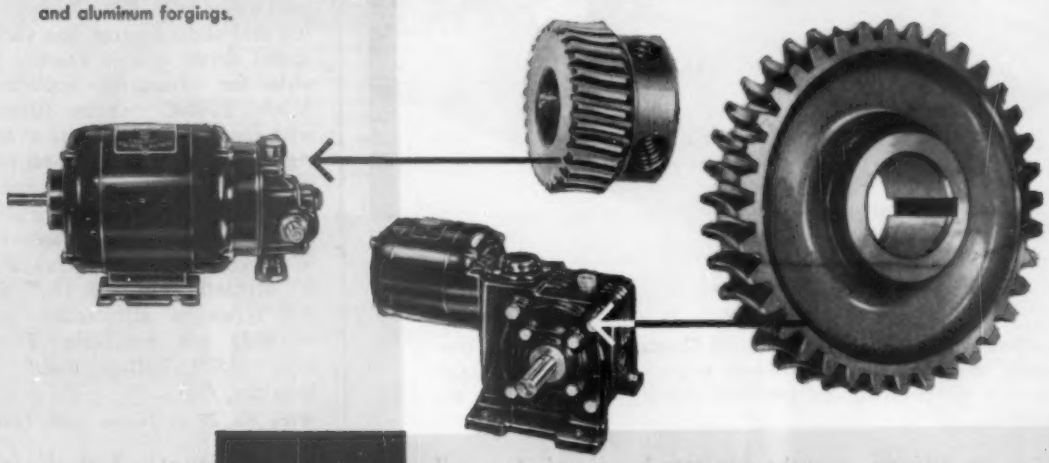
Write No. 26 on Inquiry Card—Page 32

MUELLER BRASS CO. forged gears improve dependability and performance of BODINE electric motors

For combined high shear strength and maximum wear life in their single and double reduction speed reducer motors, Bodine Electric Company of Chicago uses gears forged from Mueller Brass Co. 603 Alloy.

Bodine has specified Mueller Brass Co. forged gear blanks because of their consistently high quality . . . there is no porosity, foreign inclusions or defects typical of cast blanks. The hot working of the metal followed by heat treatment to the desired physical properties produces a refined grain structure to give uniform machining and wear in service. The forged blanks are consistent in size and held to close tolerances. Bodine has also found that the excellent machinability of the blanks in the hobbing operation increases overall hob life.

For forgings of high tensile strength, high density, minimum porosity, light weight, corrosion resistance, good machinability and low costs with little scrap loss, it pays to specify forgings from the Mueller Brass Co., the world's largest producer of brass, bronze and aluminum forgings.



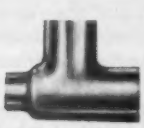
only the man from Mueller Brass Co.

can offer unbiased advice on the "one best way" of producing your parts, because Mueller Brass Co. is the only fabricator in the country offering all these methods of production . . . assuring you the best product at the best price . . . made the one best way.



Write today for complete catalogs on any of these products.

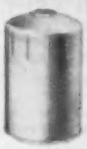




FORMED COPPER TUBE



PLASTICS INJECTION MOLDING



COLD-PREST IMPACT EXTRUSIONS



SCREW MACHINE PRODUCTS



POWDER METAL PARTS



RED BRASS CASTINGS

Also producers of: Super Cutting Red Tip Brass Rod • Aluminum Extrusions Aluminum Sheet, Coil and Strip • Plastic Pipe and Fittings • Copper Tube and Solder Type Fittings •

MUELLER BRASS CO. PORT HURON 30, MICHIGAN

262

For More Information Write No. 209 on Inquiry Card—Page 32

CLEVELAND CONTAINERS

are used to

package all kinds of spare parts economically...with greater protection...less weight!



Shown are convolute Cleveland Containers . . . each precisely designed for the product it packages. Made of high quality fibreboard, the required rigidity and strength are built-in.

Note the different ways the cans may be opened. Two well known companies, J. W. SPEAKER CORPORATION and VICKERS, INC., chose tear-string containers as shown at the left; the rectangular can is designed for re-use, and the round can provides for complete protection at less cost. A suitable container can be designed to meet your packaging problem.

Anticorrosive, moisture and grease resistant liners can be used to protect your product from the inside . . . all kinds of labels and wrappers may be used for display on the outside.

Write for our latest PACKAGING brochure.

Why pay more? For quality products . . . call CLEVELAND!

PLANTS & SALES OFFICES: CLEVELAND, DETROIT, CHICAGO, MEMPHIS, LOS ANGELES, PLYMOUTH, WIS., JAMESBURG, N. J., FAIR LAWN, N. J.

THE CLEVELAND CONTAINER CO.

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS • COMBINATION METAL AND PAPER CANS • SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES.

CLEVELAND CONTAINER CANADA, LTD.

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SALES OFFICES: NEW YORK CITY, WASHINGTON, D. C., ROCHESTER, N. Y., WEST HARTFORD, CONN. • ABRASIVE DIVISION AT CLEVELAND

For More Information Write No. 210 on Inquiry Card—Page 32

Products

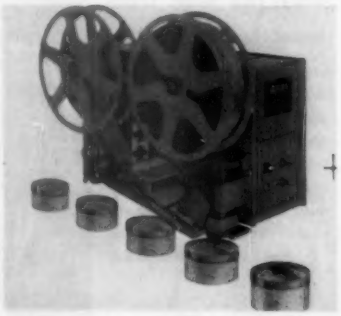
Production Machine Feeder



Production-machine feeder eliminates hand operations and facilitates automatic control of part's flow rate. Handles both rolling and sliding parts, has variable speed drive, and is readily portable for changing applications. Model 2500-C can be furnished with feed discharge chute at left or right hand or both. Take-off height is varied to fit specific applications. Feed range includes sliding parts ⅛″ to 3″ diameter—1″ to 6″ long; rolling parts 1″ to 5″ diameter—⅛″ to 1½″ thick. All types of automatic cycling controls are available. Feedall, Inc., 38399 Pelton Road, Willoughby, Ohio.

Write No. 27 on Inquiry Card—Page 32

Automatic Labeling Machine



A fully-automatic labeling machine applies pressure-sensitive labels of any shape or size in exact register on nearly all surfaces at assembly line speeds.

Operation is simple and foolproof. Labels, die-cut and printed to specification, are furnished in rolls in various quantities that may go up to 20,000 per roll.

(*Please turn to page 92*)

For More Information Write No. 211 on Inquiry Card—Page 32→

How to cut costs, improve product design with stainless steel close-tolerance castings

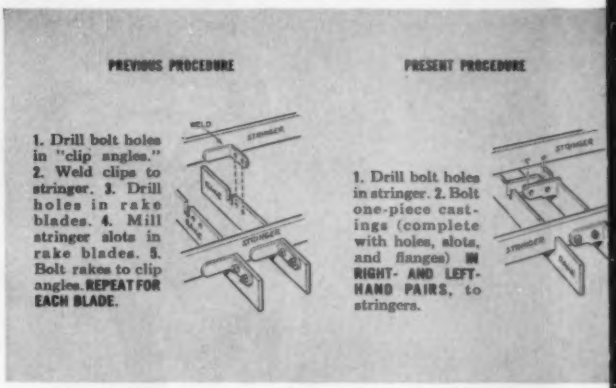
Cooper Alloy design collaboration with advanced casting techniques can simplify your fabrication, cut your costs. Here's how:



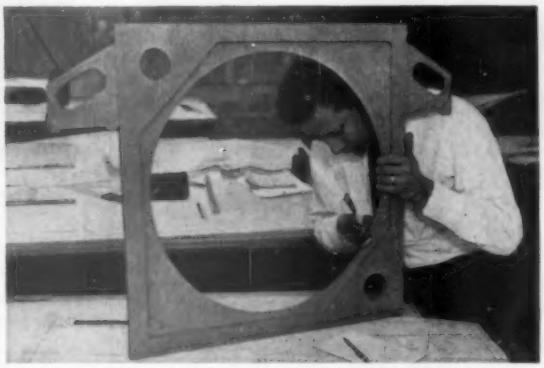
Casting of intricate parts: Jet engine afterburner component, cast for Pratt & Whitney Aircraft by Cooper Alloy, is a tangle of projections and cavities. Required, however, were the most precise dimensions to make for automatic precision machining. Shellcast® shell coring and CO_2 process cut down rejection and machining costs.



Strength and quality: Castings stronger than forgings! These Cooper Alloy nuclear service fittings possess high-temperature yield strengths 20% higher than minimum code specifications. Tough quality requirements have been met and bettered on a regular repetitive quality basis.



Part redesigned, simplified, assembly costs lowered. Classifier rake blade, Shellcast® by Cooper Alloy for Dorr-Oliver Inc., was originally made by welding cast and machined elements. Close-tolerance, smooth-surface shell castings made possible design change to one-piece cast unit, eliminating welding and much of the assembly costs.



Casting of thin-walled close-dimensioned parts. Tennessee Eastman filter frame plate previously required a good deal of careful milling on thin inner web. Combined use of shell core in a sand mold held tolerances, eliminated milling operation.



Product improvement: Gear lugs on adjusting ring for Manning, Maxwell & Moore pressure safety relief valve, formerly sand cast, are now being produced directly by Shellcast® process. Dimensional accuracy possible with shell castings permitted redesign of part to give more lugs, finer adjustability in use.

If you haven't looked over your fabrication and assembly costs lately, check the unusual cost-saving techniques listed in the capsule stories shown above. They are typical of Cooper Alloy advanced casting know-how. Many parts and assemblies that you probably haven't even considered as makable by castings, can be now by Cooper Alloy, specialists for over 35 years in casting *only* stainless steel.

Want more information? To learn more of how Cooper Alloy know-how can help cut *your* manufacturing costs, write for our free 16-page booklet, "Cooper Alloy—Pioneering in Stainless Steel." Also available, information on the other problem-solving Cooper Alloy products listed below.

COOPER ALLOY

Corporation • Hillside, New Jersey

SPECIALISTS *in Stainless Steel valves, fittings, castings; Plastic pumps, pipe, valves, fittings*

Purchasing Profiles

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"We rely on the Yellow Pages to help find them."

says Sam W. Freeman, General Purchasing Agent
Drexel Furniture Co., Drexel, N. C.

"Even though our plants are away from such trading centers as Chicago, Atlanta, Charlotte, Philadelphia and New York, our suppliers are no further away than the telephone. We always keep the Yellow Pages of these and other cities on hand — to help us locate anything we need in a hurry."

Increase your sources of supply! Decrease the time it takes to find them! Keep your local *and* out-of-town Yellow Pages telephone directories handy, and refer to them — *first!*



America's buying guide for over 60 years!

For More Information Write No. 212 on Inquiry Card—Page 32

Products

(*Continued from page* 90)

Labels are fed to an impressor which applies them individually to a specific position on the product or package to be labeled. At the split-second that the impressor removes the label from the peeling edge, a dispensing switch provides another label and the backing tape is carried away by the automatic re-wind unit. Avery Adhesive Label Corp., Monrovia, Calif.

Write No. 28 on Inquiry Card—Page 32

Equipment Reduces Cost of Corrosion Control



Electronic measuring equipment reduces the cost of controlling internal corrosion in process equipment and pipe lines. Provides a daily, or even an hourly record of corrosion attack. Capable of detecting as little as a millionth of an inch of corrosion. Gives process engineers a way of judging the effect on corrosion, almost immediately, and of even small changes in process conditions or inhibitor concentrations. Within days they can determine the optimum conditions that give minimum corrosion. Crest Instruments Co., 11808 South Bloomfield, Santa Fe Springs, Calif.

Write No. 29 on Inquiry Card—Page 32

FOR MORE INFORMATION ON PRODUCTS IN THIS ISSUE USE INQUIRY CARD PAGE 32

"potential purchase savings" with ESSEX

LIKE YOU we don't judge purchases on a cost per unit basis . . . but have an insistent regard for "potential purchase savings" in terms of end product, performance, and value. That licks problems for both of us.

Another value potential is the Essex single source plan, with its complete family of matched products.

Check with your engineers on Essex, its products, quality and production maturity.

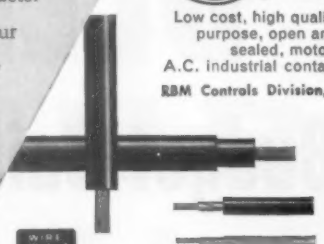
Call your local Essex application specialist to learn more about this practical component purchasing plan . . . or write



RBM® **RBM Relays**

Low cost, high quality relays: general purpose, open and hermetically sealed, motor starting, A.C. industrial contactors and starters.

RBM Controls Division, Logansport, Indiana



SX® **SX Wire and Cable**

A complete line of appliance wiring material, radio, television and electronic hook-up wire, 200° C high temperature Sil-X wire, automotive wires and cables, and flexible cords.

Wire and Cable Div., Fort Wayne, Indiana



CL® **CL Coiled Cords—Cord Sets**

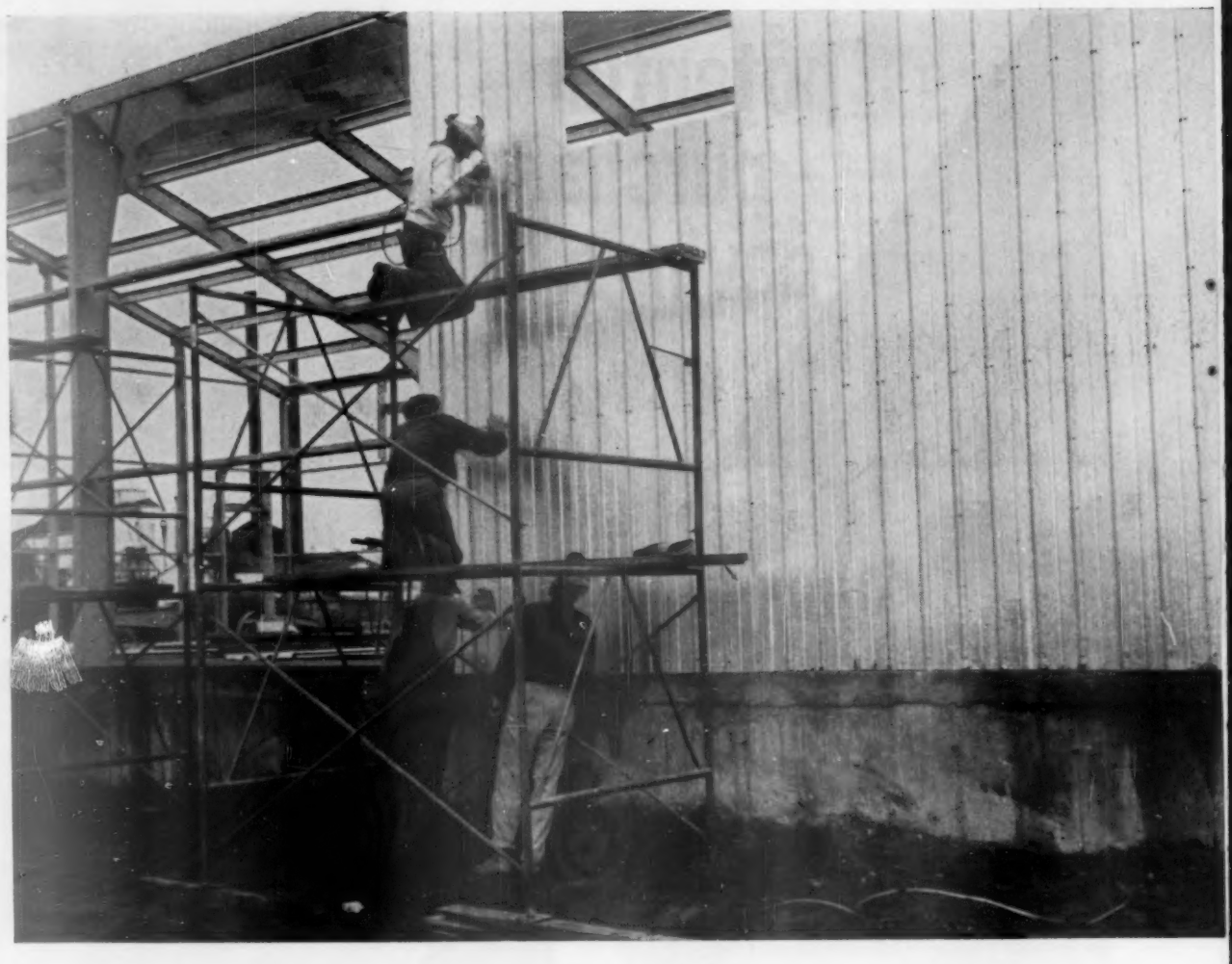
Plastic and rubber power supply cords. Terminations of all types (molded plastic and rubber). Complete line of Coiled Cords including HPN.

Cords Limited Division, DeKalb, Illinois

WIRE SX PRODUCTS®

ESSEX WIRE CORPORATION FORT WAYNE 6, INDIANA

For More Information Write No. 213 on Inquiry Card—Page 32



3 WEEK DELIVERY

TRUSCON "Budget-Buildings"

Truscon Steel "Budget Buildings" are the fast, economical way to provide warehousing, enlarge manufacturing facilities, erect field offices at lowest cost. Available with 3-week delivery from order to job site!

Basic framework is of rigid frame design, shop fabricated from hot rolled structural sections, complete with all necessary connection plates and anchor bolts. Purlins and girts are cold formed channel sections, bolted with standard machine bolts.

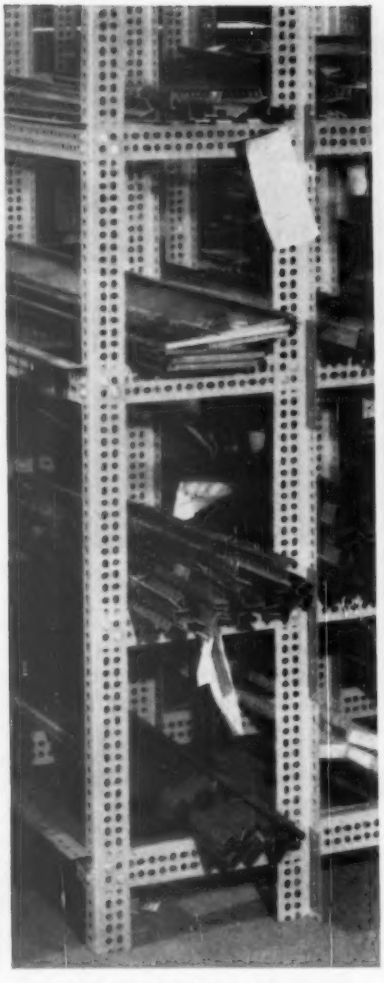
Roofing and siding are 26-gage galvanized roll formed ribbed sheets 24″ wide, and in continuous lengths. Sheets are rolled from Republic tight-coated, continuous hot dip galvanized steel . . . will not flake, crack, or peel. More rust resistant than ever and no painting needed.

Truscon "Budget Buildings" are available in widths of 32, 36, 40, 44, and 48 feet—12- and 14-foot heights, in any lengths necessary. All roofing, siding, windows, doors, and hardware are shipped to the job site as a package.

To learn more, call your Truscon representative, or write for attractive, full-color brochure.



REPUBLIC COIL COVERS provide excellent weather protection, shut out dirt, stop vandalism, eliminate costly replacement of short-lived tarpaulins, eliminate the need for paper wrappings on coils. These coil and car covers are 22 feet long, 6 feet wide, and 6 feet high. Two covers are used with each 52-foot gondola car, easily handled by overhead or trackside crane. Designed for stacking. Send coupon for more shipping protection facts.



REPUBLIC METAL LUMBER® saves time, space, and money! Precision engineered system of short slots placed to allow ¾" vertical and horizontal adjustment, offers unlimited applications. Simply measure, cut, assemble. Bonderized to resist rust and damage; baked enamel finish. Delivered in bundles of 10 angles, .080 gage or .104 gage, 10- or 12-foot lengths, bolts and nuts included. Stores in space of one 2" x 4" piece of lumber. Send coupon for idea-packed catalog.



REPUBLIC STEEL LOCKERS offer clean, attractive, dress-wash-change facilities. Interiors are spacious, well designed for convenience and ventilation. All furnaces are Bonderized to resist rust, retard corrosion, and provide better paint adhesion. Finish is baked enamel. Positive locking, heavy-duty steel construction assure protection of personal effects and tools. Call your nearest Republic representative, or send coupon for data, prices, and delivery.

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1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send additional information on the following:

- ☐ Truscon Steel "Budget Buildings"
- ☐ Republic Coil-Car Covers
- ☐ Republic METAL LUMBER
- ☐ Republic Steel Lockers

Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

For More Information Write No. 214 on Inquiry Card—Page 32

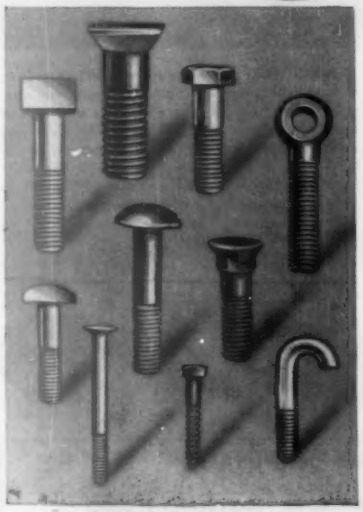
Threaded Specialties

lower cost
TEE BOLTS
by an
exclusive method



Among Pawtucket's many specialty products are these lower-cost tee-head bolts. Pawtucket's exclusive production method keeps cost low, dimensional accuracy unusually high and strength above standard.
Pawtucket tee head bolts are made in standard sizes ¼" and larger, or to your specifications. In any size, you can depend on a uniform Class 3 fit, if required.

All standard steels, stainless steels and non-ferrous metals, including Titanium



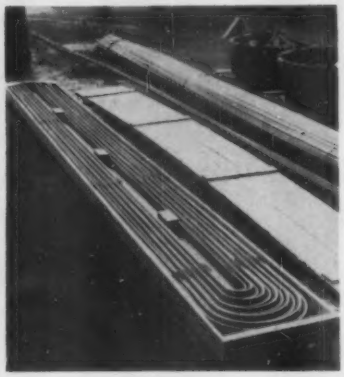
BETTER BOLTS SINCE 1882

PAWTUCKET
MANUFACTURING COMPANY
327 Pine St. • Pawtucket, R. I.
THE PLACE TO SOLVE YOUR BOLT PROBLEMS
T.M. REG.
"The Bolt Man"

For More Information Write No. 215
on Inquiry Card—Page 32

Products

U-Bend Heat Exchanger Tubes Factory Available



U-bend heat exchanger tube, in many standard and custom gauges, diameters, and lengths, is now available directly from the manufacturer. Factory fabrication advantages to users: eliminates handling and equipment costs for on-site bending; eliminates excess scrap, and unnecessary handling and storage. U-bend tube is bent, trimmed, hydrostatically tested, and reamed prior to shipment. Tubes are shipped palletized, with sizes arranged and labeled for optimum speed in on-site operations.

Standard U-bend tooling will accommodate straight lengths up to 75 feet in gauges of .049", .065", .083", .095", and .109", in several diameters and radii. Chase Brass & Copper Co., Waterbury, Conn.

Write No. 30 on Inquiry Card—Page 32



"May I see your Purchasing Agent? He finally gave me an appointment."

BRIGHT STAR INDUSTRIAL BATTERIES

lowest cost per minute of service!

let us **prove** *it.*



Write for performance charts based on A.S.A. tests.

BRIGHT STAR INDUSTRIES
Clifton • New Jersey

For More Information Write No. 216
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See how **felt** * fits in with your products!



Let us show you how to save money and increase efficiency with the proper use of felt.

FREE Samples and Applications of Industrial Felt.

*made to S.A.E. and Federal Govt. Specifications

CONTINENTAL **FELT** COMPANY, INC.
22 WEST 15th STREET • NEW YORK 11, N. Y.

For More Information Write No. 217
on Inquiry Card—Page 32
For More Information Write No. 218
on Inquiry Card—Page 32→



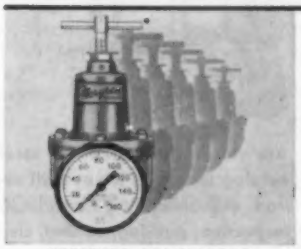
"Why it pays to STANDARDIZE on *Norgren*"

The world's most complete line of:

- ★ AIR LINE FILTERS
- ★ PRESSURE REGULATORS
- ★ OIL FOG LUBRICATORS



AIR LINE FILTERS — 98 Models
Automatic or manual drain.



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Over 400 Standard Models
For air, water, oil, steam and non-corrosive gases.



LUBRICATORS — 100 Models
MICRO-FOG for bearings.
MICRO-FOG and Oil-Fog for air-operated devices.

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  Whatever your requirements may be for air line filters, pressure regulators or lubricators for bearings or air operated devices...Norgren can supply your needs. In Norgren, you have a wide choice of high quality, top performance equipment to meet your specific requirements, plus the advantages of one source...all of which adds up to substantial savings in time and money.

- **International Availability and Service**

  Norgren representatives and stocking distributors are located in 40 of the principal industrial areas in the United States and in 25 foreign countries. When you have a design or maintenance problem, a telephone call to your nearby Norgren representative will bring quick, expert engineering service.

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  Extensive interchangeability of parts results in simplified parts inventory.

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No shelving is easier and quicker to install. No shelves are easier and quicker to change than Borroughs shelves. Get the facts on this Borroughs line too. Send for special catalog . . . it's new . . . it's chock-full of information you should by all means have.

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A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3014 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

For More Information Write No. 219 on Inquiry Card—Page 32

Products

Fire-Resistant Fiberglass Safety Ladder

Fire-resistant, strong, and almost indestructible reinforced plastic safety ladder is constructed entirely of polyester resin reinforced with fiberglass. The ladder features a method of locking in the rungs that precludes their loosening or pulling away from the siderails. Rungs are rough-surfaced to prevent slipping. Siderails are of suitable size for easy gripping and remain smooth and non-splintering. Requiring no preservative treatment, the plastic ladder is inherently impervious to exposure, rot and corrosion, does not warp, split or absorb water. Under normal conditions should last indefinitely, even when stored outdoors. The hollow tubular construction of both siderails and rungs reduces weight but provides maximum strength without requiring supplementary interior reinforcing. Offered in both single and extension types. Hooker Chemical Corp., Box 344, Niagara Falls, N. Y.

Write No. 32 on Inquiry Card—Page 32

Taped Voice Instructions For Operators at Job Site



A method of providing taped voice instructions, rather than printed words or diagrams, to manufacturing workers is now in commercial production. Two Dictaphone machines from the essentials of AIMO. (Audio Instructed Manufacturing Operation). One records information required to instruct a worker. The other reproduces these oral instructions for the operator. A spe-

(*Please turn to page* 100)

MICRO SWITCH Precision Switches

How MICRO SWITCH Helps You Choose the Right Switch from among 10,000

10,000 variations of precision switches in the MICRO SWITCH line make MICRO SWITCH a logical first source of supply.

A continuing program of product development . . . which has led to the subminiature and the sub-subminiature basic switches . . . is aimed at anticipating your needs, to make the right switch available at the right time.

And because "on the face of it" rightness is not enough in precision switches, MICRO SWITCH constantly strives to make your buying easier by delivering all that you expect and a little more. The finest equipment and latest techniques in quality control of parts, materials, and completed switches are employed.

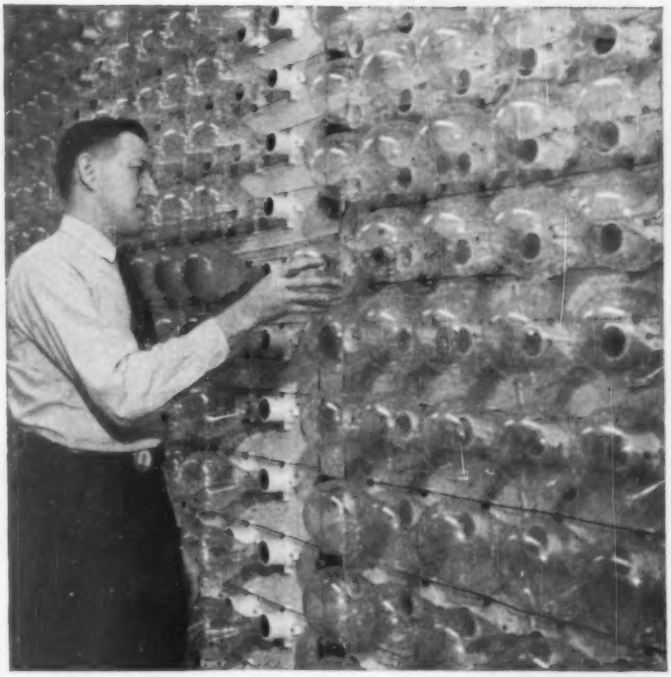
Ten catalogs—plus supplementary data sheets—containing full technical data for related series of switches are available to purchasing directors and their staffs.

Finally, MICRO SWITCH field engineering offices and hundreds of Authorized Distributors blanket the country. (They are listed in the yellow pages.) There is a MICRO SWITCH man near you, ready and willing to help, whether the need is routine or emergency.

Your request for catalogs or other information will receive prompt attention.

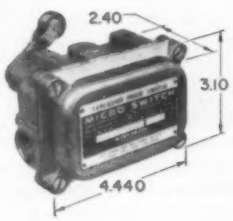
MICRO SWITCH . . . FREEPORT, ILL.
A division of Honeywell

In Canada: Honeywell Controls, Ltd.
Toronto 17, Ontario



One of the many tests to which MICRO SWITCH *precision switches are subjected takes place at this lamp load test panel. Loads of from 5 to 5000 watts are employed, at 125 or 250 volts. The highest possible inrush is obtained by allowing lamps to cool after each cycle.*

NEW... Explosion Proof Switches



Series "EX1" explosion proof switches have a conduit opening at both ends of the switch housing to permit through wiring. This reduces installation costs, saves space, and makes a neat installation. UL listed for hazardous atmospheres of Class I, Groups C and D; Class II, Groups E, F, and G. Send for Catalog 83.

Honeywell
MICRO SWITCH PRECISION SWITCHES

For More Information Write No. 220 on Inquiry Card—Page 32



Control
INDUSTRIAL
TRAFFIC with
Stonehouse Signs!









Today's vast manufacturing plants have spawned a new and growing hazard, vehicle, pedestrian and rail traffic in and around plant grounds and buildings. Too often, this traffic "just grows". . . is left to shift for itself, without control.

In your plant, play it safe with industrial traffic signs, made for industry by STONEHOUSE. All signs are made of enduring, tested materials, and designed in accordance with American Standard specifications.

Remember . . . nothing costs so little, yet pays off so handsomely, as accident prevention!

* *Write today for our free, full-color, 64 page catalog of thousands of ready-to-ship safety signs, plus information about custom-printed signs to meet your special needs.*

"Signs since 1863"

Stonehouse SIGNS

STONEHOUSE SIGNS, INC., Stonehouse Building, 9th and Larimer, Denver 4, Colorado
For More Information Write No. 221 on Inquiry Card—Page 32

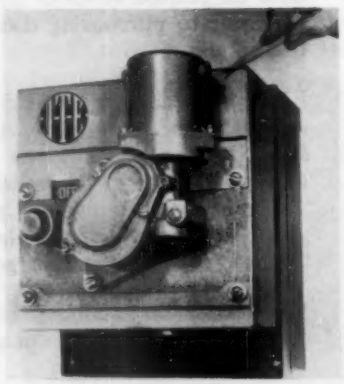
Products

(*Continued from page* 98)

cial indication button allows the instructor to clearly define successive "blocks" of information, one at a time. The reproducing unit functions at the job site. When the operator is ready for instructions, he depresses a foot control lightly and momentarily. The machine runs automatically until a block space has been reached, when it stops. As soon as the operator is ready for his next instruction, he repeats the process. If he has not understood the instruction, or wishes to double-check it, he depresses the backspace control and the reproducer automatically goes back to stop at the preceding block space. Constant pressure on the backspace control rereels the magnetic tape as far as desired. For the comfort of the operator, a muting switch eliminates all sound whenever backspacing occurs. Dictaphone Corp., 420 Lexington Ave., N.Y., N.Y.

Write No. 34 on Inquiry Card—Page 32

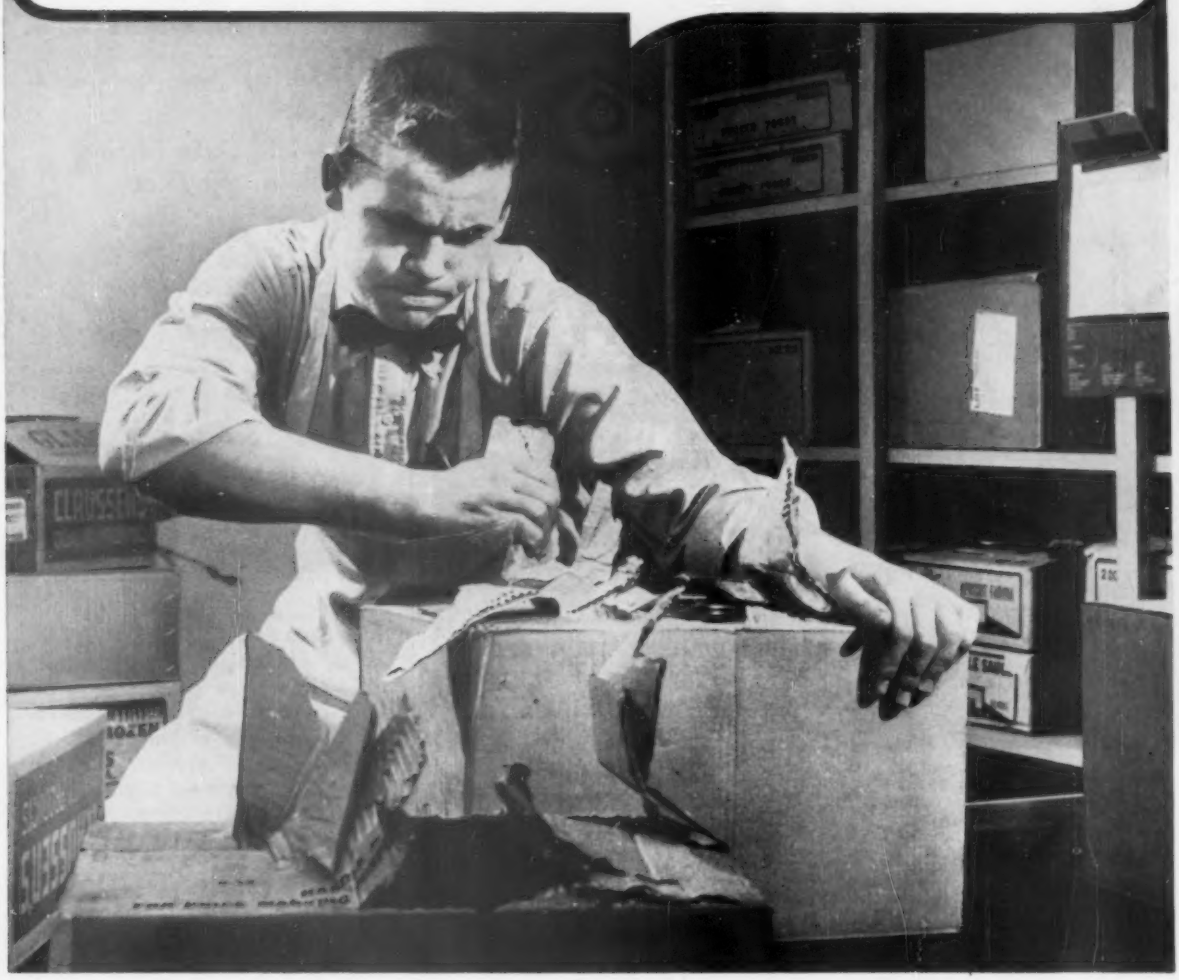
Remote Control of Molded-Case Units



Motor-operated mechanism makes possible both remote control and automatic transfer systems, using molded-case circuit breakers. Can be wired for any operational systems desired. Can be mounted on either new or existing I-T-E molded-case breakers without removing them from service. Units are so compact they add only six inches to the depth of a breaker. For use on circuit

(*Please turn to page* 102)

Man, it just isn't *safe* to open these cartons. A guy either gets stuck on a staple . . . or slashes the can when he cuts the carton. The cartons sealed with one strip of reinforced tape — those are the ones I like.

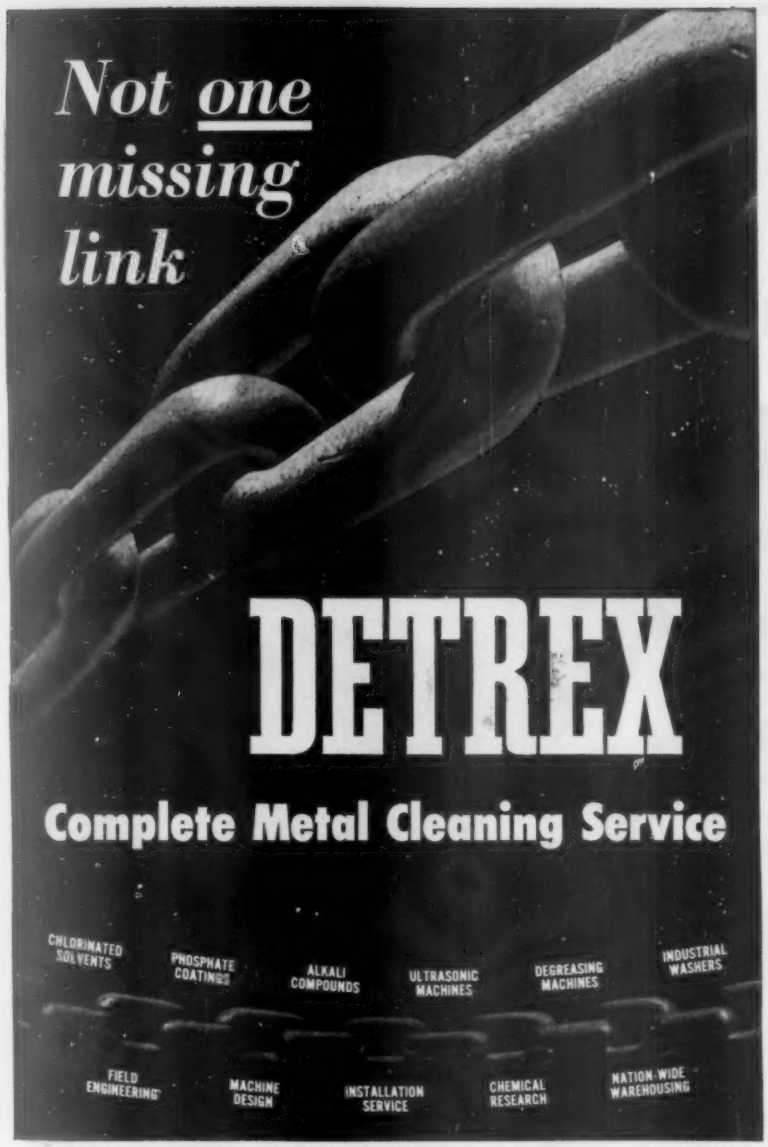


When the convenience of an easy-to-open carton is important to you and when you want super-strong shipping protection, order Glassweb reinforced-with-glass tape. The economy of *one* pass, one strip sealing means savings in the Shipping Department. The ease of opening will keep customers happy, too. Order Glassweb and let it prove itself.

GLASSWEB REINFORCED TAPE

CENTRAL PAPER COMPANY • MENASHA, WISCONSIN

For More Information Write No. 222 on Inquiry Card—Page 32



DETREX services and facilities forge a chain without one missing link. Working together, they offer the most effective answers to industry's countless metal cleaning and processing needs.

Chemicals and compounds are provided for degreasing, washing and a wide range of other metal working processes. DETREX equipment, specifically designed for use with these materials, is precision manufactured and expertly installed, assuring maximum efficiency and productivity.

Let DETREX field service men and technical experts help you select the exact combination of metal cleaning methods, materials and machines to keep your operation at peak efficiency. May we help you?

DETREX CHEMICAL INDUSTRIES, INC.

BOX 501, DEPT. P-12 DETROIT 32, MICH.

For More Information Write No. 223 on Inquiry Card—Page 32

Products

(*Continued from page* 100)

breakers in switchboards, control centers and individual enclosures and any other applications where remote operation is needed. Provide positive remote electrical actuation for I-T-E molded-case breakers—including the current-limiting Cordon models—in continuous current ratings from 70 to 800 amperes and voltages up to 600 volts a-c and 250 volts d-c. I-T-E Circuit Breaker Company, 12 South Twelfth St., Phila. 7, Pa.

Write No. 36 on Inquiry Card—Page 32

Quick, Safe Lifting to 20 Feet



Triple Lift Mast, plus Rotating Roll Clamp, on Model 500 Lift Truck enable stacking quickly and safely to a height of more than 20 feet. Equipment design permits rotation of load in either direction from the vertical or the horizontal position. Clamp has one hydraulically movable, long rigid arm which is controlled by the operator, and one short, fixed, rigid arm. Levers for hydraulic clamp action and carriage rotation are conveniently located adjacent to the lift and tilt controls, in the operator's compartment. Capacity of the Roll Clamp—combined with the lift truck's extra-high lifting feature—is 1800 lbs. at 21″ load center. Clamp handles paper rolls ranging from 26″ to 42″ in diameter. Rotating equipment affords easy accessibility for service and maintenance. Towmotor Corp., Cleveland 10, Ohio.

Write No. 37 on Inquiry Card—Page 32

For More Information Write No. 224 on Inquiry Card—Page 32→



ANNOUNCING

the Newest Source of Quality Stainless Sheet and Strip in the Industry

J & L's Completely New Stainless Mill . . .

designed and engineered to give you the fastest delivery on Quality Stainless Sheet and Strip

Now you can demand the quality you need and get the service you want from the most advanced stainless steel sheet and strip source in the industry. J & L's new Sendzimir Mill at Louisville, Ohio, is the result of years of planning by specialists to provide a new facility of such perfection that yield of the highest quality is assured.

J & L can now offer stainless sheet and strip to the most exacting specifications, producing stainless sheets to extremely close tolerances in widths up to 48 inches.

By efficient, flexible scheduling and adequate inventory support, J & L offers stainless steel buyers everywhere the fastest possible service.

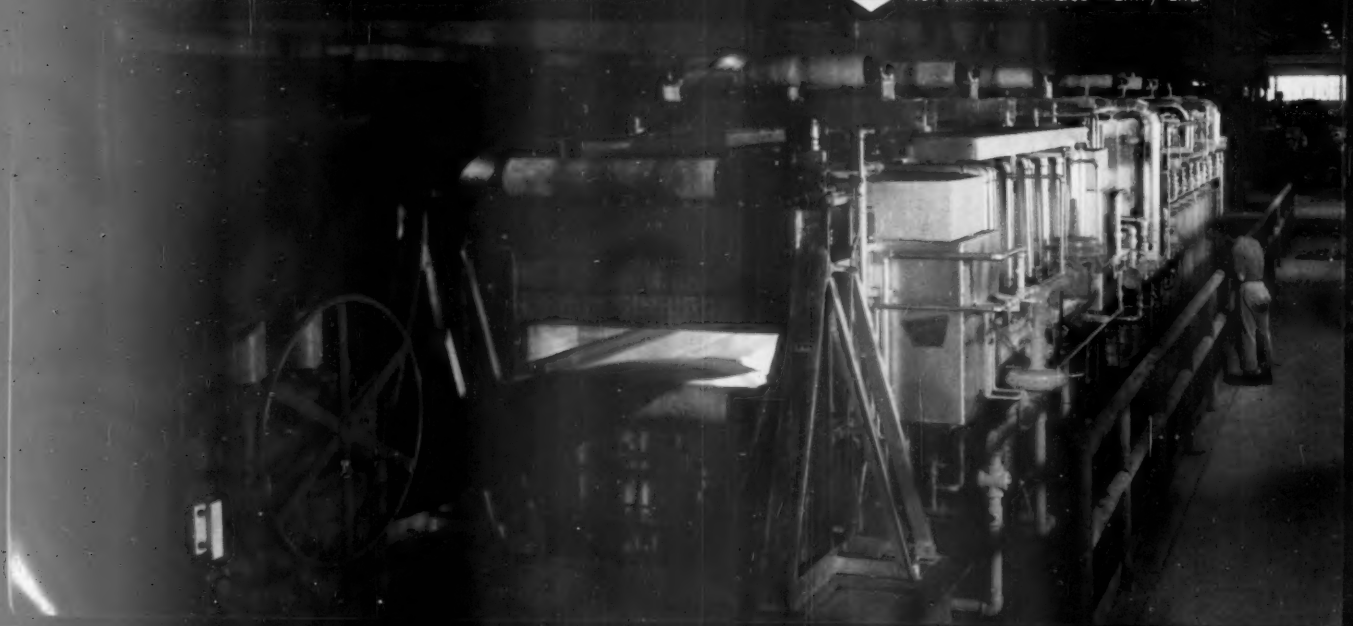


▲ Coil Preparation Line for Incoming Hot Rolled Sheet



▲ The 54" Temper Mill

▼ Hot Anneal Furnace—Entry End





▲ The Sendzimir Mill

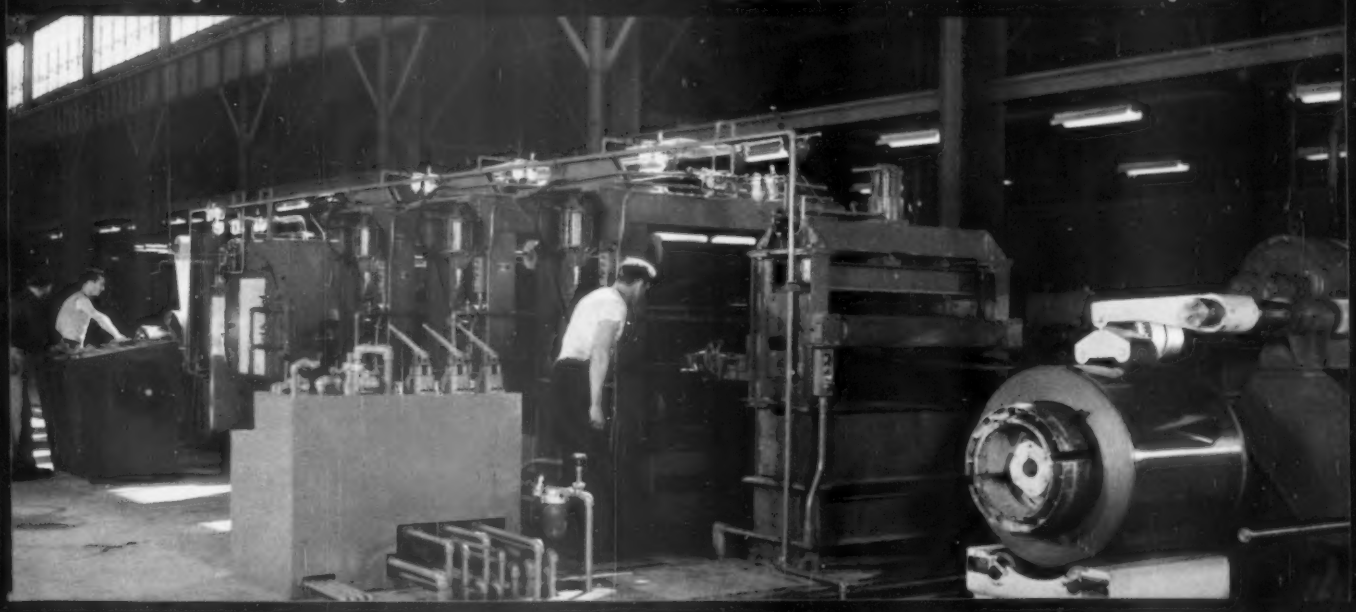


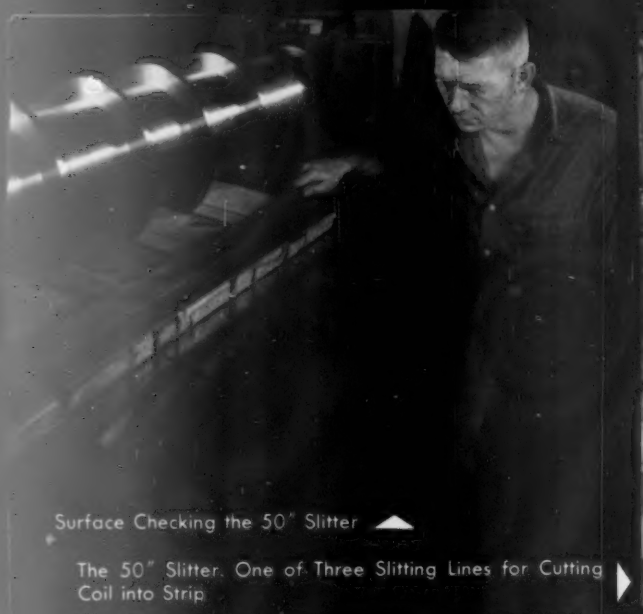
Interior View of the Intricate Mechanism of the Sendzimir Mill ▶



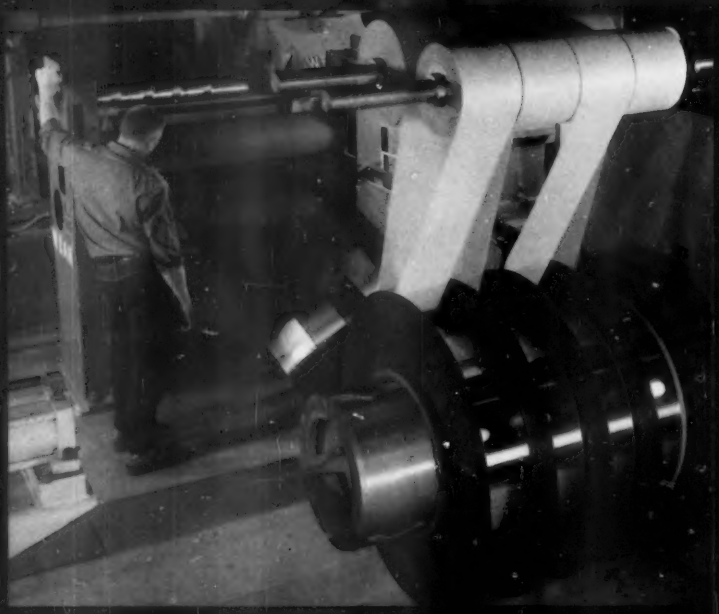
Scouring and Scrubbing Line ▼

▲ Cold Roll Anneal and Pickle Line—Discharge End





Surface Checking the 50" Slitter



The 50" Slitter. One of Three Slitting Lines for Cutting Coil into Strip

One of the two Shear-to-Length Lines for Cutting Coils into Specified Sheet Lengths



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TOUGH, LIGHTWEIGHT KENNETT CONTAINERS of resilient Vulcanized Fibre cushion contents against shock damage. Built-in fibre partitions cradle fragile parts safely and provide an automatic counting system for inventory control. Because they can be stacked four and five high, without toppling or crushing, Kennett Trays save valuable space. Their light weight and wide range of sizes and designs streamline the handling of parts and components.



JOB-DESIGNED FOR EVERY PLANT NEED, Kennett Containers can end *your* materials handling problems. Trucks, trays, barrels and boxes—there's a Kennett Receptacle to speed and simplify the job you're doing—and save you money on replacements as well.

NATIONAL CAN HELP YOU CUT COSTS TWO WAYS...

If your problem is *safety* in materials handling, Kennett Receptacles by National can end the difficulty. For National Vulcanized Fibre is glossy smooth, resilient and long-wearing—won't crack, dent or break—won't rust or corrode—won't damage contents or expose them to damage. If your problem is speed and efficiency in handling, National can solve that too. A National Materials Handling Specialist is always available to help you adapt the broad Kennett Line of industrial containers to your exact need. Simply ask to have him call, or write direct to Dept. B-12 for our booklet—MATERIALS IN MOTION.

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

In Canada:
NATIONAL FIBRE CO. OF CANADA, LTD., Toronto 3, Ontario

For More Information Write No. 225 on Inquiry Card—Page 32

Office Equipment and Supplies



Purchasing department personnel will find the **Catalog Storage Rack** produced by **The Frick-Gallagher Mfg. Co., Wellston, Ohio** an invaluable aid. It can be used with equal advantage by one person, or when centered, by two, three or more persons. Each rotating section consists of a one-piece hub and a one-piece bottom disc which is flanged and beaded for stiffness. The five compartments on each hub measures 21" wide at the face, 15" deep and 7" high. The overall height of the rack is 65½".

Write No. 38 on Inquiry Card—Page 32



A new type of **telephone handset** cradle which holds the handset firmly in the proper disconnect position and provides a series of switch combinations to actuate circuitry when the handset is removed or replaced has been developed by the **Stromberg-Carlson Division of General Dynamics Corp., Rochester, N. Y.** The cradle is molded in thermoplastic, and its contour prevents the handset from falling out or bouncing under normal conditions in mobile applications. An additional feature is the option of including a switch in the cradle, permitting circuit connections to be completed simply by removing the handset.

Write No. 39 on Inquiry Card—Page 32



A new counter-high steel cabinet for use in offices and manufacturing plants is announced by the **Penco Div. of Alan Wood Steel Co.** Built to standard counter height (42 in.), it can be butted next to counters to provide a smooth top working surface in addition to a large, lockable storage area for supplies, records, etc. It is available in standard gray or green plus six special colors. It is shipped assembled, one to a carton.

Write No. 40 on Inquiry Card—Page 32

A new booklet just published by **Weber Marking Systems, 215 East Prospect Avenue, Mount Prospect, Illinois** shows exactly which departments in a plant or office can expect to use multiple marking equipment profitably. A check-off chart indicates when a handprinter should be used and when a label printing machine would be more economical.

Write No. 41 on Inquiry Card—Page 32



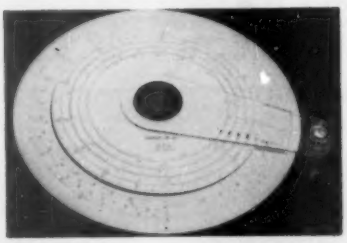
A new, electronic high-speed **punching machine** was introduced recently by **General Binding Corporation, Northbrook, Illinois.** Electrically powered, the new machine occupies less than 2½ feet of space and can be operated on any desk or table top. A pilot light signals that the machine is on and ready for use.

Write No. 42 on Inquiry Card—Page 32



A unique **office chair** is now being produced by **Harter Corporation, Sturgis, Michigan.** This executive posture model is equipped with an electro-massage unit which enables the businessman to receive a "Swedish" massage in his own office. A five-speed control permits the executive to select the degree of massage action that he prefers. Constructed of heavy gauge steel, it is available in a variety of upholsteries and enamel finishes.

Write No. 43 on Inquiry Card—Page 32



The Eckel Co., 31 St. Joseph St. Arcadia, Calif. is now offering a new, simplified Log Log Hyperbolic **circular slide rule** called the Dial-O-Matic, designed to perform any kind of slide rule calculation. It adds and substracts scale lengths automatically. You pay no attention to scale direction or to direction of motion of cursor in setting to factors. The Dial-O-Matic takes care of the direction problem. The slide rule is constructed of two aluminum discs to which is bonded a durable white plastic surface. The permanent black division lines are precision divided. The cursor is made of molded acrylic plastic.

Write No. 44 on Inquiry Card—Page 32



TAKE IT EASY

HAMMERMILL GRAPHICOPY PAPERS®

ARE ON THE WAY



Hammermill's complete line of papers for printing, duplicating and office use

Now from Hammermill—comes a new *idea* that makes it easy for you to buy, store and use the right paper for your printing and duplicating equipment. It's Hammermill Graphicopy Papers.

This new line includes 181 different items in 19 grades of Hammermill Papers. Each item is individually numbered to make it easy to order the right weight, color and finish for each specific job. And Hammermill Graphicopy Papers come in new easy-to-open and easy-to-use cartons, in packages with moisture-proof wrappers.

Hammermill Graphicopy Papers are accurately cut to size 8½ x 11 and 8½ x 14. And they are free from curl —to assure trouble-free running.

Very soon, now, you can get well-known Hammermill quality plus the convenience of ordering *all* your office papers from one source. Ask your Hammermill supplier about new Graphicopy Papers and the new handy "Paper Selection Guide" wall chart. Or write: Hammermill Paper Company, 1461 E. Lake Road, Erie, Pennsylvania.

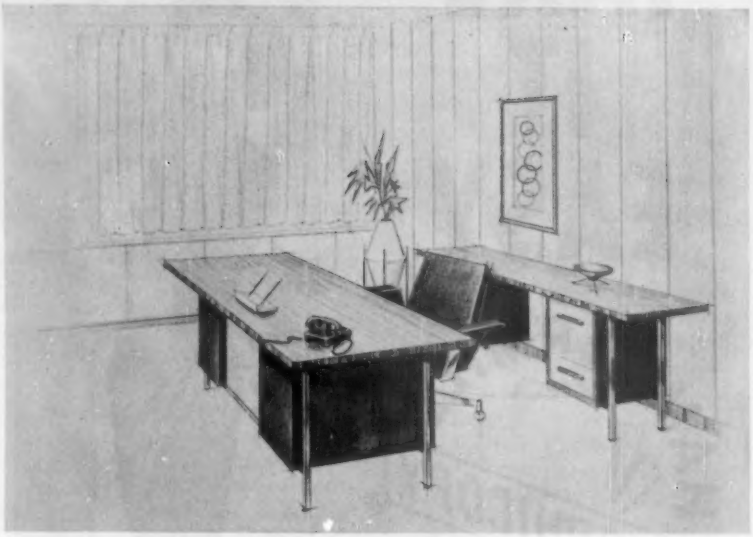


Handy Hammermill E-Z Carry Pak* makes it really easy to remove Graphicopy Papers from the new Hammermill E-Z Paper Pak Carton*. *Patent Pending

Hammermill Graphicopy Papers include: Hammermill Bond • Cockletone Bond • Management Bond • Whippet Bond • Hammermill Mimeo-Bond • Whippet Mimeograph • Hammermill Duplicator • Whippet Duplicator • Hammermill Double Purpose Master Paper • Hammermill Offset Wove • Hammermill Offset Vellum • Hammermill Offset Super-Smooth • Glossette Coated Offset • Doeplake Offset • Hammermill Opaque • Hammermill Cover • Hammermill Index • Hammermill Translucent • Hammermill Braille

For More Information Write No. 226 on Inquiry Card—Page 32

How to combine functional design with a style-wise office - -



specify the "Designer Line" of metal office furniture by PEERLESS

Today, style in the modern business office is a "must". But too often, style is featured at the expense of equipment function. Or, the functional factor actually is over emphasized to where style has been completely sacrificed.

Combine both and you have the Nth degree of business office layout. To be sure of this effective combination get all the facts about the *new* "Designer Line" by Peerless.

Here's the best way to do just that. Write today for a copy of the just-off-the-press "Designer" brochure. Fully illustrated are double and single pedestal desks, credenzas and modern typewriter wings. Also featured are modular pedestals and work surface tops in a wide range of sizes and styles.

Just ask for a copy of Brochure #141 . . . from your nearby authorized Peerless Dealer . . . or write us direct.

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For More Information Write No. 227 on Inquiry Card—Page 32

Office Equipment



The **C. E. Sheppard Co., 44-05 Twenty-First St., Long Island City 1, N. Y.** introduced a new line of nylon **post binders** for marginal punched forms. The new nylon post binder line will feature two styles—one for unbursted continuous forms and the other for holding bursted forms. Outstanding feature of the new binder is the continuous ⅛" diameter round nylon cord which forms both posts. The continuous cord eliminates any possibility of individual posts pulling out at the base.

Write No. 45 on Inquiry Card—Page 32



A new 10-key, hand-operated Odhner **adding machine,** designed especially for portability has been introduced by **Facit, Inc., 404 Fourth Avenue, New York 16, N. Y.** Capable of a nine figure total, the unit is ideal for use by small purchasing departments or in the field where no electrical outlets are necessary. Among the outstanding features of the machine is a special combination repeat-correction key used for multiplication and to clear out the adding mechanism at the same time.

Write No. 46 on Inquiry Card—Page 32



GERALD M. LOEB, a senior partner, E. F. Hutton & Company, and author of the best-selling book, "The Battle for Investment Survival," says:

"It's a real dividend-paying paper"

"We want our letterheads, legal forms and other business documents not only to reflect stability and build prestige; they must be of lasting quality. That's why we feel the unique characteristics of paper made from cotton fiber meet our needs best. We consider cotton fiber paper a sound investment—one that pays substantial dividends in user satisfaction."

Flexible white cotton fibers, crafted by skilled hands and modern machines, create papers that for generations have been recognized for beauty, strength and permanence. Make sure the papers you use are made with cotton fiber —25% minimum up to 100% in the finest grades . . . in stocks and bonds, business and social stationery, onion skin, index, ledger, drawing, tracing and blueprint papers.

Send for Free Booklet: "What every Businessman Should Know About Paper—Today!"

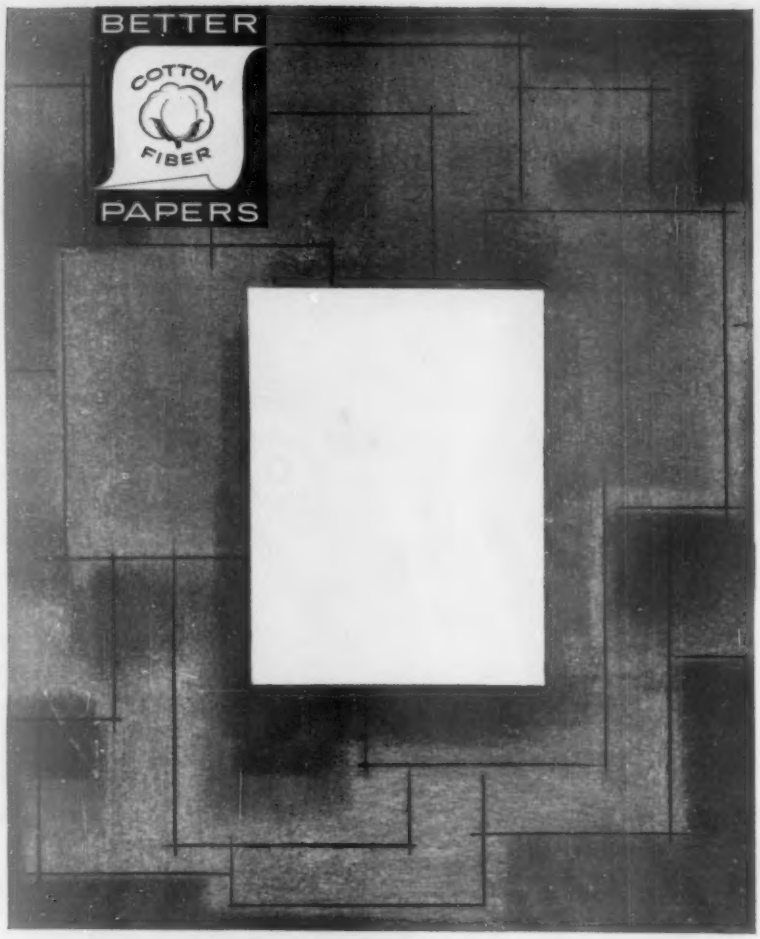
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For More Information Write No. 228 on Inquiry Card—Page 32



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At A Cost You Hardly Notice
WESTON Cotton Fiber BOND

A distinctive letterhead is an asset in any business. In WESTON BOND, you get conspicuous quality at a price that adds little or nothing to your correspondence costs.

Made better with cotton fiber, WESTON BOND has extra character and impressiveness, beauty of finish, sparkling brightness and rugged durability. Your printer has it in white, colors, white opaque, litho finish and envelopes to match. Ask him to use it on your next letterhead . . . or write for a sample book and make your own comparison. Address dept. **PN.**

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For More Information Write No. 229 on Inquiry Card—Page 32

Office Equipment



A new and extremely low-cost method of **partitioning** was recently introduced by Marnay-Rockaway when they unveiled their "Desk Partitioner" (patent applied for). Equipped with an exclusive device which prevents marring of desk tops, the partition can be attached in minutes to any desk having an overhang of ⅛". Just a turn of a small screwdriver will securely fasten the unit to the desk. Constructed of heavy gauge steel, it is available with interchangeable inserts of clear flat or frosted fluted glass, pegboard, masonite, chalkboard, plastic or corkboard. **Marnay Sales Division, Rockaway Metal Products Corp., 1270 Broadway, New York City** is the manufacturer.

Write No. 48 on Inquiry Card—Page 32



Philco Corporation and the Uptime Corporation of Rawlins, Wyo. have announced a joint program to develop and market a new high speed **punched card reader.** Known as the "Speedreader 2000," a prototype model has been in full operation for more than six months. The machine has a capacity in the feed and stacking hoppers of 4000 conventional punched cards and can read at the rate of 2000 cards per minute.

Write No. 49 on Inquiry Card—Page 32



Monarch Furniture Company, Inc. are now using spherical **casters** on special posture chairs. The casters, made by **Shepherd Casters, Inc., Benton Harbor, Michigan,** swivel and glide on even the deepest pile carpeting. There is no scuffing or marring of the floor surface.

Write No. 50 on Inquiry Card—Page 32

Faster output from diazo machines, with no sacrifice of print density, is now possible through an innovation in **diazo sensitized papers** developed by **Keuffel & Esser Co., Hoboken, New Jersey.** The new paper, Helios Blue 11, is the result of a completely different chemical formulation. The three most important applications for the new product are: (1) reproducing from old, worn original drawings; (2) reproducing from sepia intermediates; and (3) reproduction on small diazo equipment.

Write No. 51 on Inquiry Card—Page 32



A restyled **copying machine** and a new **heavy-weight paper** have been announced by **Minnesota Mining and Manufacturing Co., St. Paul, Minn.** The new cabinet is clored buff and blue with aluminum trim to complement modern office equipment. The new "bond weight" paper is durable and stiff to resist tearing and rough handling. The paper can be used in any existing "Thermo-Fax" copying machine as well as the new unit.

Write No. 52 on Inquiry Card—Page 32



THE carbon for any typewriter, and nearly every copy job!

Flexibility and then some, that's NU-KOTE, the *first* plastic-base typewriter carbon. Just one grade and finish for any typewriter and practically any copy job imaginable. NU-KOTE outlasts ordinary carbons 3 to 1, makes the cleanest copies, keeps hands clean, too. You get clear, sharp copies, first to last—as your *free* trial will prove! Available only through your local dealer.

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Burroughs Corporation, Detroit 32, Michigan P-104
In Canada write:
Acme Carbon & Ribbon Company, Limited, Toronto 13, Ontario

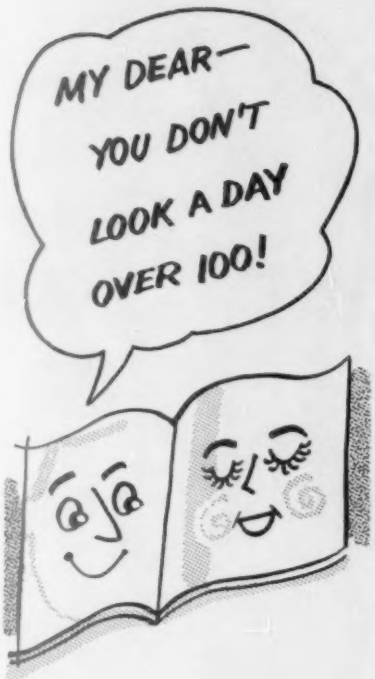
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For More Information Write No. 230 on Inquiry Card—Page 32

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L. L. BROWN
LINEN LEDGER
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White cotton fiber)

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For Permanent Records that don't Show Their Age

L. L. BROWN
LEDGER & RECORD
PAPERS
Since 1849
Adams, Massachusetts

For More Information Write No. 231 on Inquiry Card—Page 32

Office Equipment



Snap-Jacks, a new device for **mounting individual microfilm** images in a filing card, has been announced recently by **Remington Rand Division of Sperry Rand Corporation.** It is now possible to remove a specific filmed document from a roll of film, insert it into the Snap-Jack pocket which in turn snaps into any type if filing card with a pre-cut aperture.

Write No. 53 on Inquiry Card—Page 32

Plastic Binding Corporation, Chicago, Ill. has a new all-electric **power punching machine.** The double shearing action causes the dies to punch paper progressively from left to right, instead of all 24 male dies coming down simultaneously. This reduces strain, prolongs life of the unit. Books up to 1⅜" thick can be simply bound on the Model 27 machine. After foot pedal operation spreads the fingers of the binder and engages the plastic teeth into the punched holes, the binder snaps shut, completed.

Write No. 54 on Inquiry Card—Page 32



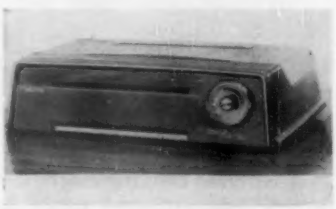
The Standard Register Company, Dayton, Ohio is now marketing a new **forms separator.** The unit is motor-driven, operates independently of the forms writing machine, and has been designed for quick and easy operation. The machine performs its job by guiding one part of a multipart formset down one side and the remainder of the set down the other, while disposing of the carbon through use of a rewind spindle. The new unit will accommodate a stack of forms 12" high.

Write No. 55 on Inquiry Card—Page 32



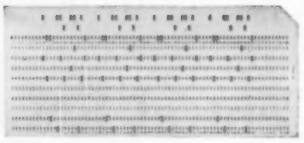
A newly designed metal cane **folding chair** is now being marketed by **Lyon Metal Products, Inc., Aurora, Illinois.** The new chair is made entirely of steel. The resilient channel frame construction permits the chair to adjust to uneven floors without permanent frame distortion. Safety features include positive, pinch-proof hinges, rounded corners and smooth edges.

Write No. 56 on Inquiry Card—Page 32



American Photocopy Equipment Company, Evanston, Ill. has introduced a lightweight, portable office **photocopy machine.** The desk-top model will reproduce any original office-sized document in approximately 19 seconds. The Director, as it is called, has such features as: single push button control, continuous automatic feed operation and fast feeding.

Write No. 57 on Inquiry Card—Page 32



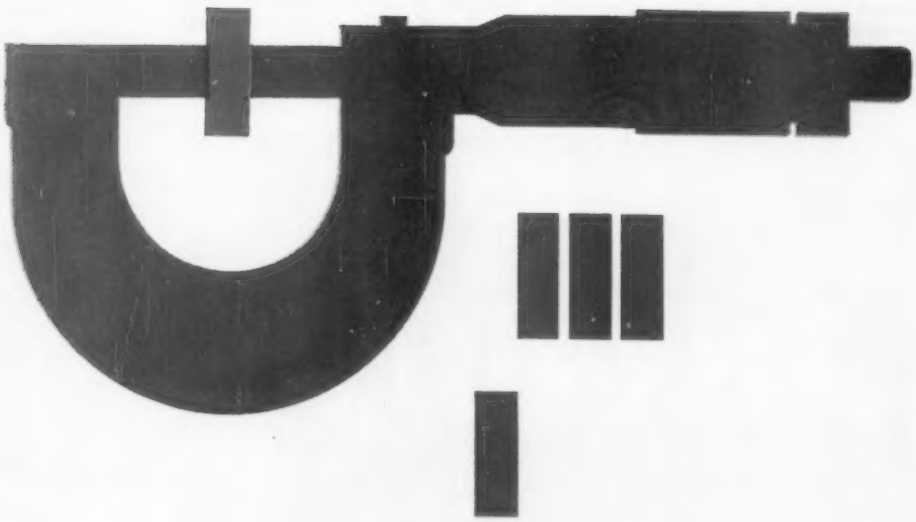
The excellent performance of IBM Punched Cards is constantly guarded by a quality control program without parallel in the industry. Behind these controls is an endless pattern of IBM Research plus the know-how gained during more than forty years of manufacturing experience. Result: Production techniques that are models of precision-engineering. • When you insist on IBM Supplies, you benefit in every way from precision-engineered products—specifically designed to insure accurate and reliable data processing.

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For More Information Write No. 232 on Inquiry Card—Page 32

Big Week for Central Iowa

THE PURCHASING Agents Association of Central Iowa wrapped up a whale of a lot of hosting experience all in one week. A banquet at the Savery Hotel in Des Moines was the occasion of the Association's regular monthly meeting. It was also a kick-off for the Central Iowa two-day Products Show. Sixty-five regular purchasing agent members played host to 350 exhibitors at the banquet. All heard farmer-humorist Edmond Groomes deliver a very enjoyable talk on the subject, "Decision."

An estimated 20,000 viewers passed through the 230 exhibits during the two-day Products Show at Veterans Memorial Auditorium in Des Moines. Visitors at the Products Show included District 3 Vice President George Forbes from St. Louis, plus members of his executive committee. District 3 presidents and national directors, along with the standardization chairman and public relations chairman of each association were there.

A full day's activity following the close of the Products Show consisted of meetings involving District 3 Council, Standardization Committee chairmen and public relations chairmen.

Arrangements for the Council meeting, Products Show banquet and related activities were administered by Central Iowa's National Director Herb Lubke.



Shown here with the many outstanding members of the executive committee of District 3, are George Forbes, District 3 vice president, seated fourth from left; Central Iowa Association President Matt Karpan, standing second from right; and Central Iowa's National Director Herb Lubke, standing 7th from right.



The Products Show Committee did an outstanding job. Members of the committee are, left to right, Don Foster, Herb Lubke, A. W. "Tee" Baldock, Jim Casey, and W. L. "Lee" Howlett.

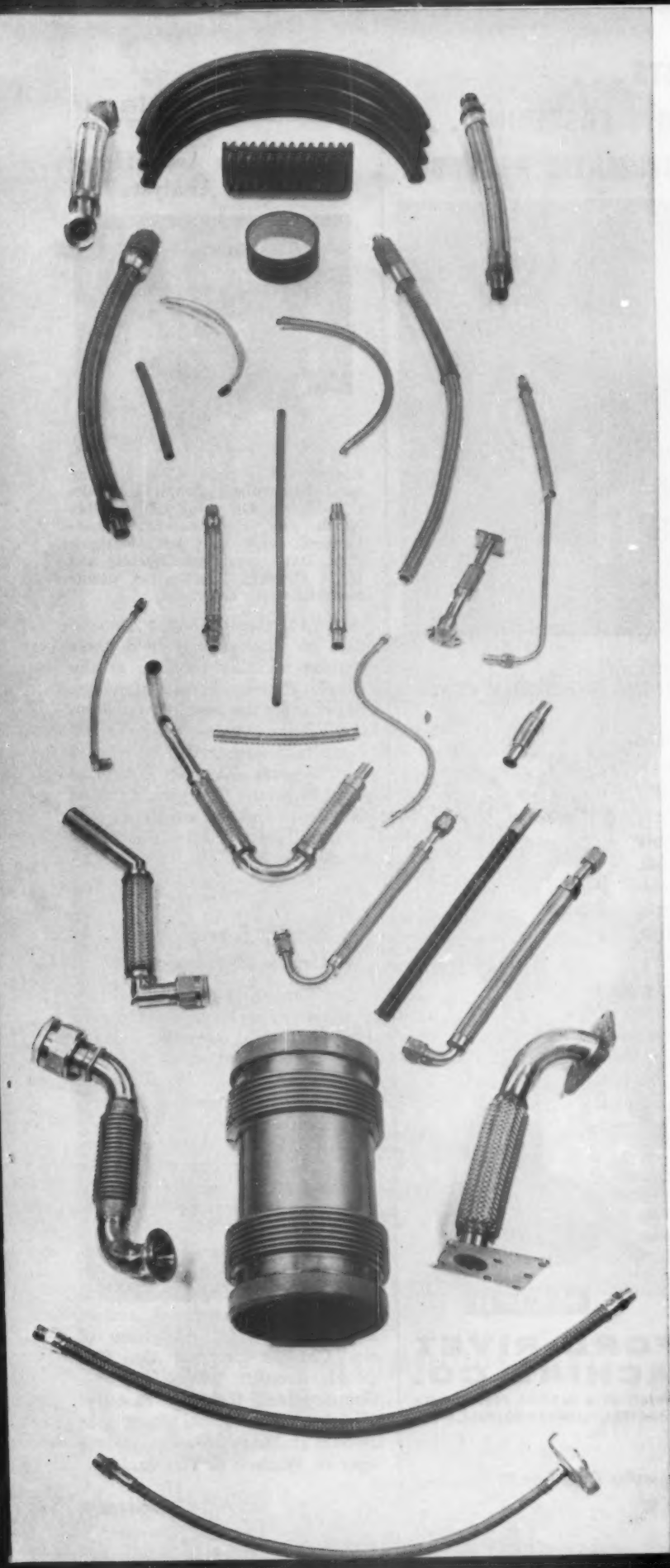


The standardization committee of District 3 got together for this picture. Bill Langefeld, director of purchases, Maytag Co., and Central Iowa's standardization committee chairman, is shown fifth from the left.



President Matt Karpen, Waterloo Valve Spring Compressor Co., left; and Jerry Talbot, Globe Hoist Co., chuckle over a remark made by one of the Junior Achievement group: Dick James, Pat McGoldrick, Mike Behrendt, and Tom Kling.

For More Information Write No. 233
on Inquiry Card—Page 32→



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Our engineers will send you design suggestions that can save you time and money.

Jet aircraft, modern chemical plants, rockets, atomic energy plants have created a new technology that calls for new products. The American Metal Hose Division of The American Brass Company is constantly working with design engineers on special flexible assemblies to meet new problems.

American is equipped to work in:

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Monel
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Anaconda specialists welcome the opportunity to help you get the flexible metal hose assemblies you need to meet your problems of expansion and contraction, movement, vibration, corrosion, pressures, and temperatures.

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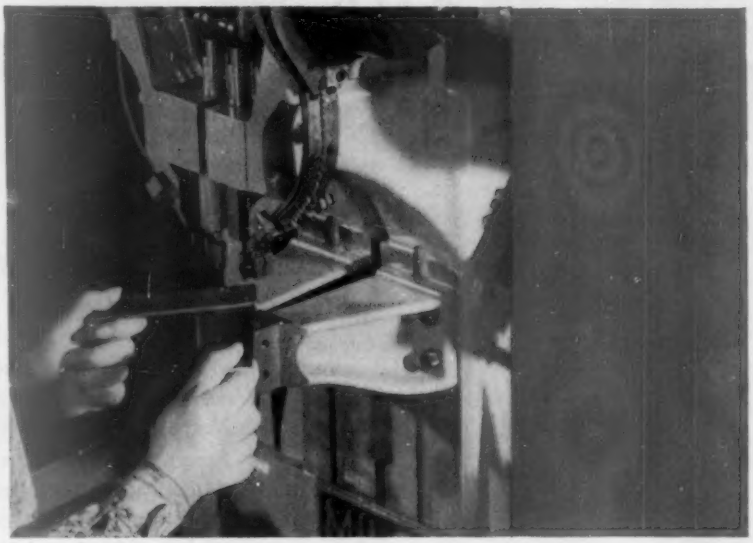
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CUT UNIT ASSEMBLY COSTS . . .
GET HIGH-SPEED, LOW-COST FASTENING . . .
TAKE ADVANTAGE OF AUTOMATIC ASSEMBLY



Milford shows you how to cut assembly costs!

Tubular rivets are basically a low-cost fastener. Feed and clinch them with automatic Milford Riveters, and you *multiply* the cost savings inherent in rivets.

The Milford Riveter shown here is only one of a full line of automatic machines. Bench or floor models . . . single or multiple spindle . . . manual or automatic, the Milford Riveter line is designed to solve your toughest assembly problems.

Remember . . . these are *basic* rivet-setting machines. They can be tooled quickly and inexpensively for your particular assembly needs. And it's up to you whether you buy or lease. For a complete line of fasteners . . . for fast, trouble-free assembly—look to Milford first!



MODEL 220-BH

MODEL 220-BH

RIVET CAPACITY: 1/32" dia. by 1/8" length to 9/64" dia. by 1/4" length.
THROAT DEPTH: 11"
POST HEIGHT: From 0" to 18"
HOPPER: Rotary
CLUTCH: Single trip, non-repeating Horton type
FLYWHEEL: 260 R.P.M.
DRIVE: V-belt noiseless

THE MILFORD RIVET
MILFORD RIVET & MACHINE CO.
MILFORD, CONNECTICUT • HATBORO, PENNSYLVANIA
ELYRIA, OHIO • AURORA, ILLINOIS • NORWALK, CALIF.

For More Information Write No. 234 on Inquiry Card—Page 32

Association News

Chattanooga Ass'n Hears Value Analyst



Seated, left to right: C. B. Bricker, local standardization chairman; John C. Williams, GE value analyst; Roy North, G.E. representative, Chattanooga; back row, left to right: P. J. Davis, program director; and H. B. Hendrix, 7th District standardization vice chairman.

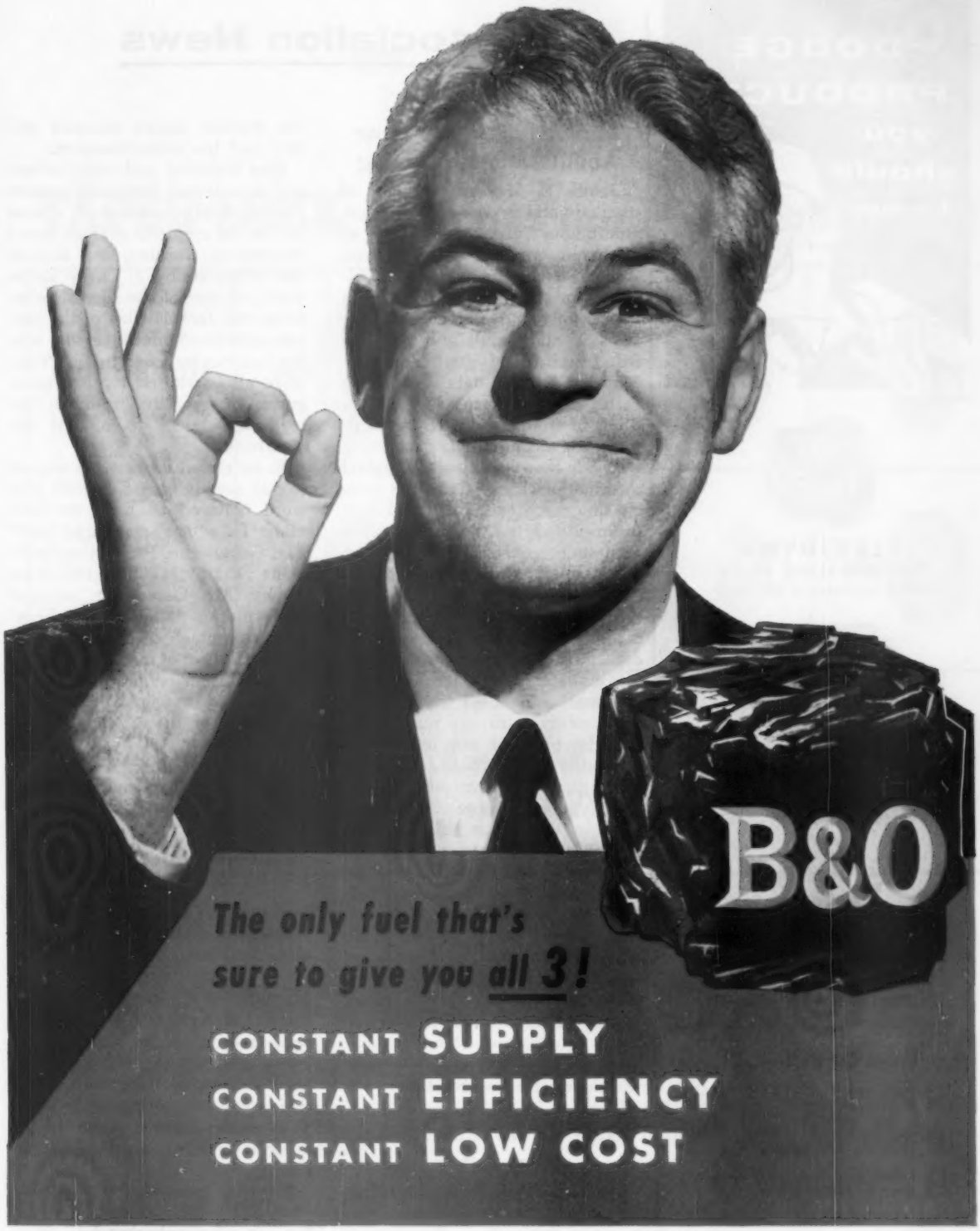
The Purchasing Agent Association of Chattanooga held their regular monthly meeting at the Hotel Patten in Chattanooga. Speaker for the evening was John C. Williams, value analyst, medium transformer department of the General Electric Company plant in Rome, Georgia. His most excellent and informative talk was well received by the members.

North Jersey Assn. Hears Psychologist

Dr. Francis M. Dowd, associate professor of psychology at Rutgers University, was the guest speaker at a recent meeting of the Purchasing Agents Association of North Jersey at the Essex House in Newark.

One hundred sixty members and guests were present at the meeting. The subject of Dr. Dowd's address was "Interpersonal Relations."

The forum preceding the meeting discussed the problem of inventory control. Over sixty members attended the panel session, moderated by Ed Abramson of the Charles Bruning Co. The panel member was Uwe G. Grapengeter, Camlox Fastener Corp., and the panel guest was Donald H. Hale, production manager of Wallace & Tiernan.



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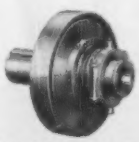




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DODGE
of Mishawaka, Ind.

For More Information Write No. 236 on Inquiry Card—Page 32

Association News

Ann Arbor P.A.'s Hear About Data Processing

James E. Meyers, manager of methods and procedures division, Burroughs Corporation, spoke at a recent meeting of the Ann Arbor Purchasing Agents Association on the subject of "Data Processing and Electronic Systems in the Small and Medium Size Purchasing Department." Mr. Meyers defined data processing in its simplest terms as the handling of information. He then illustrated machine data processing methods by selecting some typical information handled in the purchasing office and illustrated how different types of electronic equipment could be used to sort and store this information for future use.

While noting the great strides made in machine processing of data during the past decade, Mr. Meyers stated that the type of information handled in a typical small or medium size purchasing department does not lend itself as readily to electronic equipment as do more repetitive and simplified types of paper work procedures. As a result, selection and purchase of data processing equipment for sole use by the purchasing department can seldom be justified. If, however, data processing equipment is already available to a purchasing department, there is a real opportunity for the purchasing agent to use this equipment to provide useful information otherwise difficult or impossible to obtain with routine clerical procedures.

North Jersey Purchasing Men Relax

Frank L. Nicholls, chairman of the outside activities committee, reports that the Purchasing Agents Association of North Jersey held a very successful fourth annual fall golf outing at the Forest Hill Field Club in Bloomfield, New Jersey. The success of this outing was due to the excellent facilities of the club, the perfect indian summer golf day and the committeemen.

One hundred and eight ardent golf fans tested their skill against the perfectly manicured course and in the majority of cases found themselves wanting; but success was achieved by J. Carey Lockward, winner of the low member prize and Jack Hurley of the outside activities committee who won the low net member prize. Prizes were also awarded for low gross guest; longest drive from the first tee and closest to pin at the eighteenth.

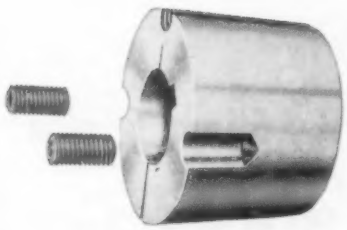
A delightful dinner was served to 135 members and friends who were honored to have in their midst TV's "Ambassador of Golf" Bud Geoghegan, Pro of the Crestmont Country Club of New Jersey. Mr. Geoghegan selected the winning name for "kickers" handicap which carried a prize of a beautiful set of matched Tommy Armour irons. Visiting with us again was our friend John Clair, Chairman of the U. S. Olympic Ski Games.

Following dinner, door prizes were awarded by committeeman Dick Smith.

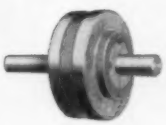
Metropolitan Purchasers Get Radioactive

Seymour Oestreicher, assistant manager for sales, Atomic division, American Machine & Foundry Co., gave a truly outstanding talk on "Atomic Energy in Industrial Applications" at a recent meeting of the Metropolitan Purchasers Club. Mr. Oestreicher held the members on the edge of their seats as he spoke in easy to understand terms about the industrial applications of atomic energy.

He also pointed out that the purchasing agent is often not doing a good purchasing job when he buys nuclear equipment. He said the main reason for this was lack of knowledge on the subject. For information he suggested contacting the Atomic Industrial Forum, 3 East 54th Street, New York, N.Y.



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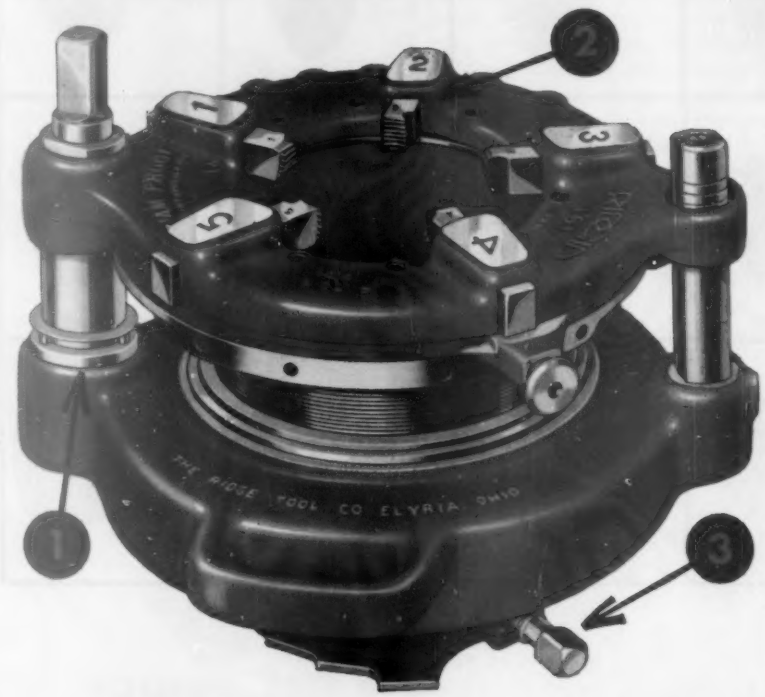
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For More Information Write No. 237 on Inquiry Card—Page 32

Now you thread 4", 4½", 5" and 6" pipe with only One set of dies with the New RIDGID No. 161 4" to 6" Geared Pipe Threader



Check These Time-Saving Features:

1. Jam-Proof for safe threading by power or hand. Drive pinion kicks out automatically when full thread is cut. Die head can't jam.

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What's more the new No. 161 has all the time-saving and proved performance features that have made the RIDGID 65R-TC and 4PJ Threaders the world's most popular. Save time on your large pipe jobs . . . order the 161 from your Supply House today!

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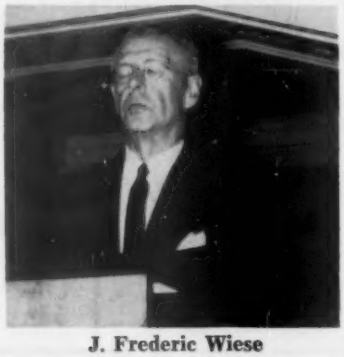
For More Information Write No. 238 on Inquiry Card—Page 32

Association News

Second Milwaukee Purchasing Conference



Stuart F. Heinritz



J. Frederic Wiese



William L. McCaskill



Fred Smith

The Milwaukee Association of Purchasing Agents recently held its second Purchasing Conference. Speakers on the program gave specific suggestions to help stimulate thinking toward self-improvement, new ideas, improved man-

(*Please turn to page* 124)



Increases in production and profits come hand in hand when you fasten with Bostitch stapling. A Bostitch Economy Man may be able to demonstrate this to you with your company's products. Showing how to make things better and faster for less money is his job.

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Miniaturization of electrical and electronic assemblies has created fastening problems. Fischer . the leading producer of *turned* nuts . . helps solve these problems by supplying precision nuts in miniature.

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For More Information Write No. 240 on Inquiry Card—Page 32

Association News

(*Continued from page 122*)

agement techniques, and profit. Speakers included: Stuart F. Heinritz, senior editor of Purchasing Magazine, "A Time for Purchasing Decision"; J. Frederic Wiese, vice president commercial, Lukens Steel Company, "Procurement's Role on the Management Team"; William L. McCaskill, training director, Worrell-Consolidated Laboratories. "Principles of Persuasion"; Fred Smith, Fred Smith Associates, "Progress comes in Small Packages."

Saginaw Valley Meets in Bay City

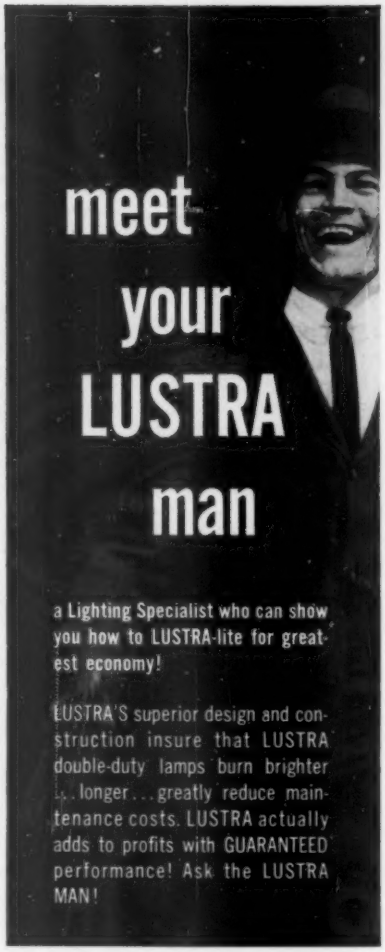
A recent meeting of the Saginaw Valley Purchasing Agents Association was held at the Empire Steak House in Bay City. Several interesting and highly controversial subjects were discussed by the members: Gifts, by Dan M. Sullivan, purchasing agent, The Dow Chemical Co., Midland, Michigan; Buyers Visits to Suppliers Plants, by D. R. Coultrip, manager of purchases & stores, Dow Corning Corp., Midland, Mich.; How to Select A Supplier, by L. W. Smith, purchasing agent, Marley Brothers, Saginaw, Mich.; Control of Salesman, by Wilmont Pruyne, purchasing agent, Saginaw Products Corp., Saginaw, Mich.

Newspaper P.A. Conference, Chicago, Jan. 30-31

Newspaper purchasing executives are now registering for their annual conference which is to be held in Chicago on January 30-31, 1959.

A two-day program has been prepared which deals exclusively with the buying problems of the newspaper industry. It will include round-table discussions of topics requested by those who register. There will also be a panel presentation of "A Good Buy I Have Made," and short reports by

(*Please turn to page 127*)



a Lighting Specialist who can show you how to LUSTRA-lite for greatest economy!

LUSTRA'S superior design and construction insure that LUSTRA double-duty lamps burn brighter . . . longer . . . greatly reduce maintenance costs. LUSTRA actually adds to profits with GUARANTEED performance! Ask the LUSTRA MAN!

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The Magic of Joe Magarac . . .
Crankshaft for a 16 Cylinder Diesel

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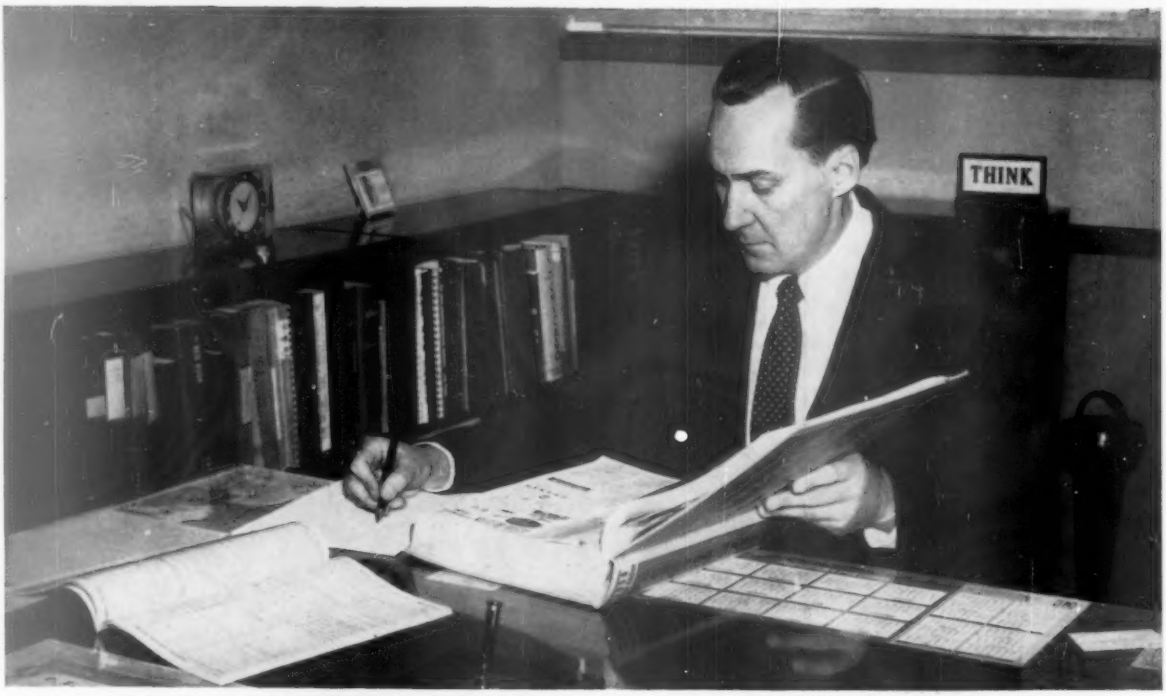
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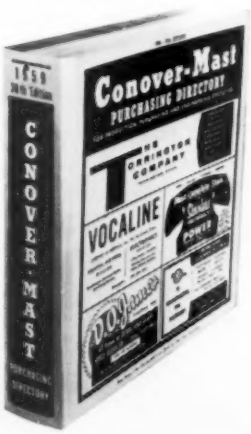


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Association News

(*Continued from page 124*)

P.A.'s on such subjects as typewriter purchases, management and maintenance, and materials handling in the newspaper plant.

All newspaper purchasing personnel will be welcome at the conference. The registration fee is $10.00. Requests for registration blanks should be addressed to—Daniel J. Lewis, purchasing agent, Christian Science Monitor, One Norway Street, Boston 15, Mass.

Kron Addresses Northeastern Penn P.A.'s

The regular meeting of the Purchasing Agents Association of Northeastern Pennsylvania was held at the Hotel Sterling, Wilkes-Barre, Pa. Guest speaker of the evening was E. Philip Kron, assistant director of purchasing for the Eastman Kodak Co., Rochester, N.Y., who is also vice chairman of the National Committee on value analysis-standardization. His talk was well received.

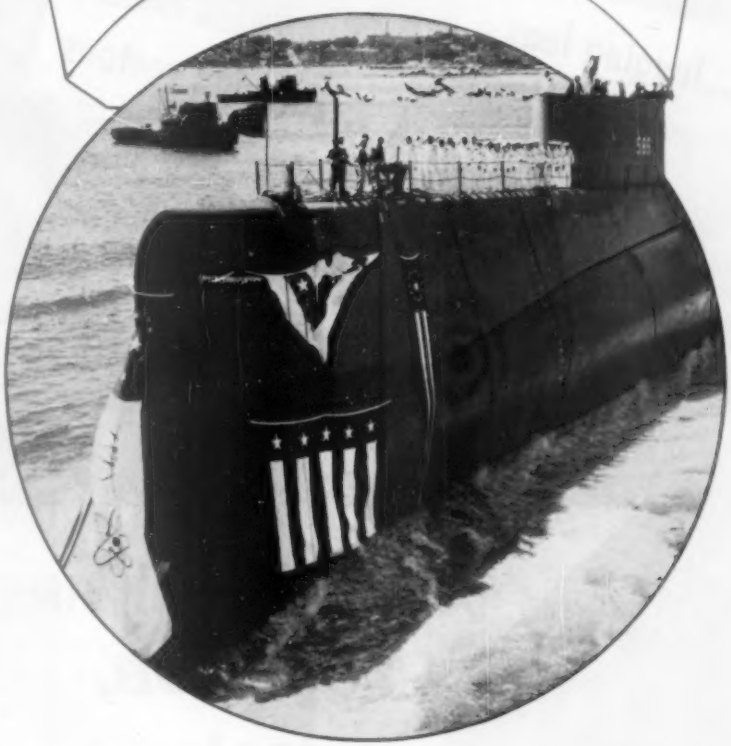
Book Review

Purchasing Handbook

George Alfian, Editor
McGraw-Hill $15.00

Editor George Aljian and his 220 contributors have filled a need that has existed for some years for a complete reference book on purchasing. Nearly 1400 pages in length, the Handbook covers just about every possible subject in the purchasing field. It is designed, as one of the editors associated with the project said, to "help purchasing personnel do the best job of getting the right commodity at the right price and having it at the right place at the right time." The book is not designed as a text and is not intended to supplement any of the texts on purchasing subjects that are already in print. Instead it is intended primarily as a reference. It will certainly make a worthy addition to every purchasing executive's book case.

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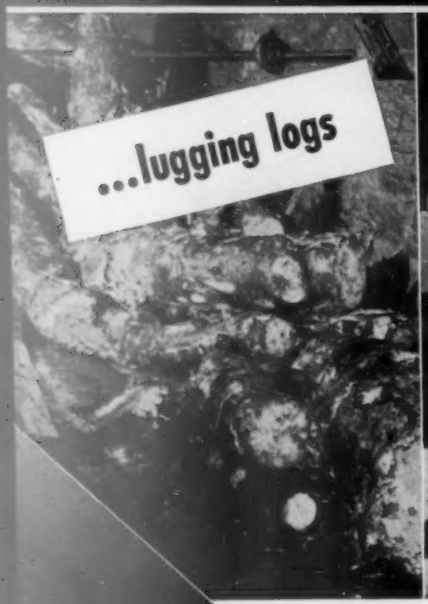
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There's a Thermoid Conveyor Belt for every job





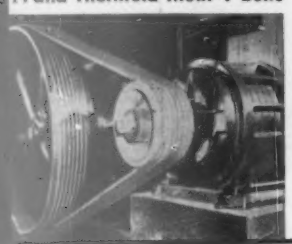
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You'll find that Thermoid has a Conveyor Belt that wears better, lasts longer, stays "on the job" to save you time and money. Each Thermoid Belt is built to do a specific job *best*. The same is true of Thermoid Hose, Multi-V Belts and Friction Materials. Call your local Thermoid Distributor.

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Association News

Denver Ass'n At Colorado School of Mines

The Purchasing Agents Association of Denver met recently in the Colorado School of Mines dining room in Golden. An excellent steak dinner was served. Guests of the Association were two School of Mines staff and one prospective member.

Paul Cheney, education chairman, reported a lack of response for the opportunity school course and that more publicity would be issued. A questionnaire will be used to learn the members' interest regarding an advanced course in Spring. The District 3 education committee meeting in Denver was a success.

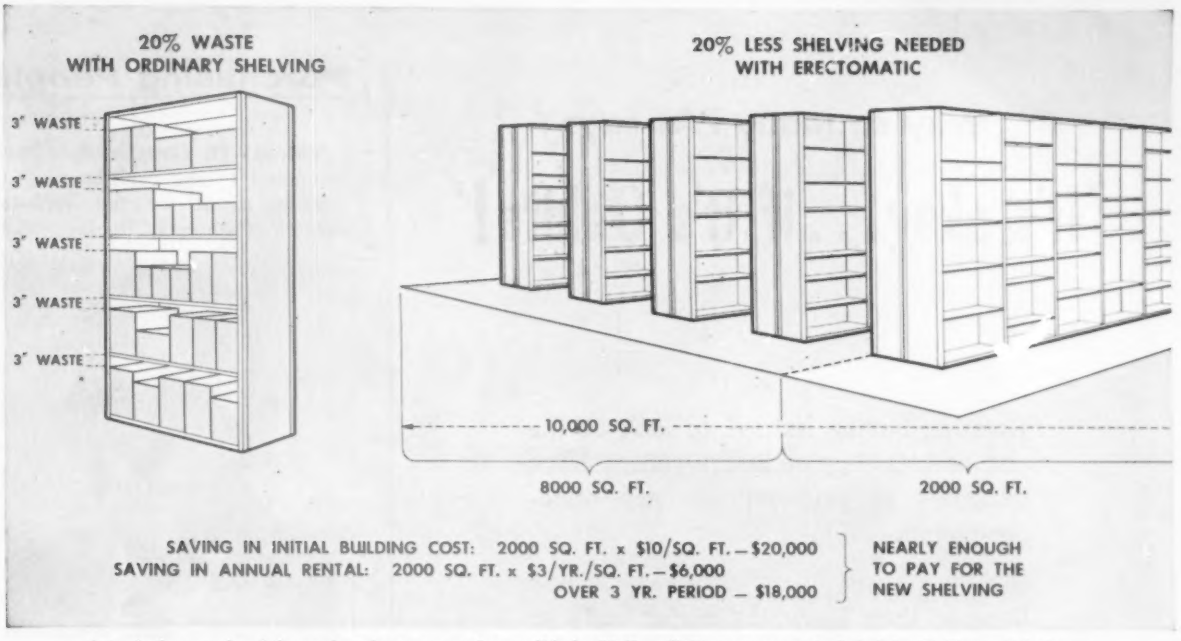
Ken Huston expressed appreciation for the fine response to the questionnaires on standardization in September. Tom Paterson, public relations, plugged the forthcoming Handbook on Purchasing by George Aljian, published by McGraw Hill.

President Grabert inducted new member Stanley Sydebotham of Aviation Industrial Supply and commended the work of the reception committee under Bill Comfort. National Director Ernest Waters exhibited some samples of new products in the plastics category and then introduced School of Mines Business Manager Gurnett Steinhauer, who gave words of welcome and told some of the interesting facts about the School.

The speaker of the evening, Prof. Theodore W. Pohrte, head of the department of physics, at the School of Mines, was presented to bring a few of the results to date of I G Y (International Geophysical Year). He related how this momentous fact-gathering project got started and something of its scope and significance.

FOR MORE INFORMATION USE INQUIRY CARD PAGE 32

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A typical example of the savings in space made possible by Hallowell ERECTOMATIC steel shelving is illustrated above.

8000 square feet of Hallowell *ERECTOMATIC* Steel Shelving can hold as much as 10,000 square feet of ordinary shelving

Reduction in floor space and shelving is made possible by quick-change shelf positioning and exclusive corner post construction, permitting more effective utilization of area between shelves.

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Hallowell ERECTOMATIC® Steel Shelving permits such utilization. Quick-change shelf positioning eliminates waste in vertical spacing, increases the usable storage area by as much as 20%. Exclusive corner post construction permits full utilization of shelf width, too. Typical savings in initial building costs and annual costs are listed in the tables opposite. Ask your authorized Columbia-Hallowell dealer for details.

Or write Columbia-Hallowell Division, SPS, Jenkintown 31, Pa. or SPS Western, Santa Ana, Calif.

SAVINGS IN INITIAL BUILDING COSTS
(per 100 sq. ft. of storage space eliminated)

% floor space saved by ERECTOMATIC	Building cost per 100 sq. ft.								
	$700	800	900	1000	1100	1200	1300	1400	1500
5	$ 35	40	45	50	55	60	65	70	75
10	70	80	90	100	110	120	130	140	150
15	105	120	135	150	165	180	195	210	225
20	140	160	180	200	220	240	260	280	300

SAVINGS IN ANNUAL COST
(per 100 sq. ft. of storage area saved)

% floor space saved by ERECTOMATIC	Cost (per year) per 100 sq. ft.									
	$100	200	300	400	500	600	700	800	900	1000
5	$ 5	10	15	20	25	30	35	40	45	50
10	10	20	30	40	50	60	70	80	90	100
15	15	30	45	60	75	90	105	120	135	150
20	20	40	60	80	100	120	140	160	180	200

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Why so many PAs say:

"It's okay... if it's Oakite!"

Because, having learned to look at the end result, they compare competitive materials at *price-per-job*, not price-per-pound.

Because they know the major costs in metal conditioning and maintenance cleaning are time... loss of production... safety to equipment—and that the cost of the compound itself is just a small part of the story.

And they know from experience that an Oakite compound may sometimes cost a little more *before* it's used—but not after!

They sum it all up by saying: "It's okay ... if it's Oakite."

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MATERIALS · METHODS · SERVICE
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Purchasing People

Vincent H. Gauchel has been promoted to the position of purchasing agent for the **Webster Electric Company,** Racine, Wisc.



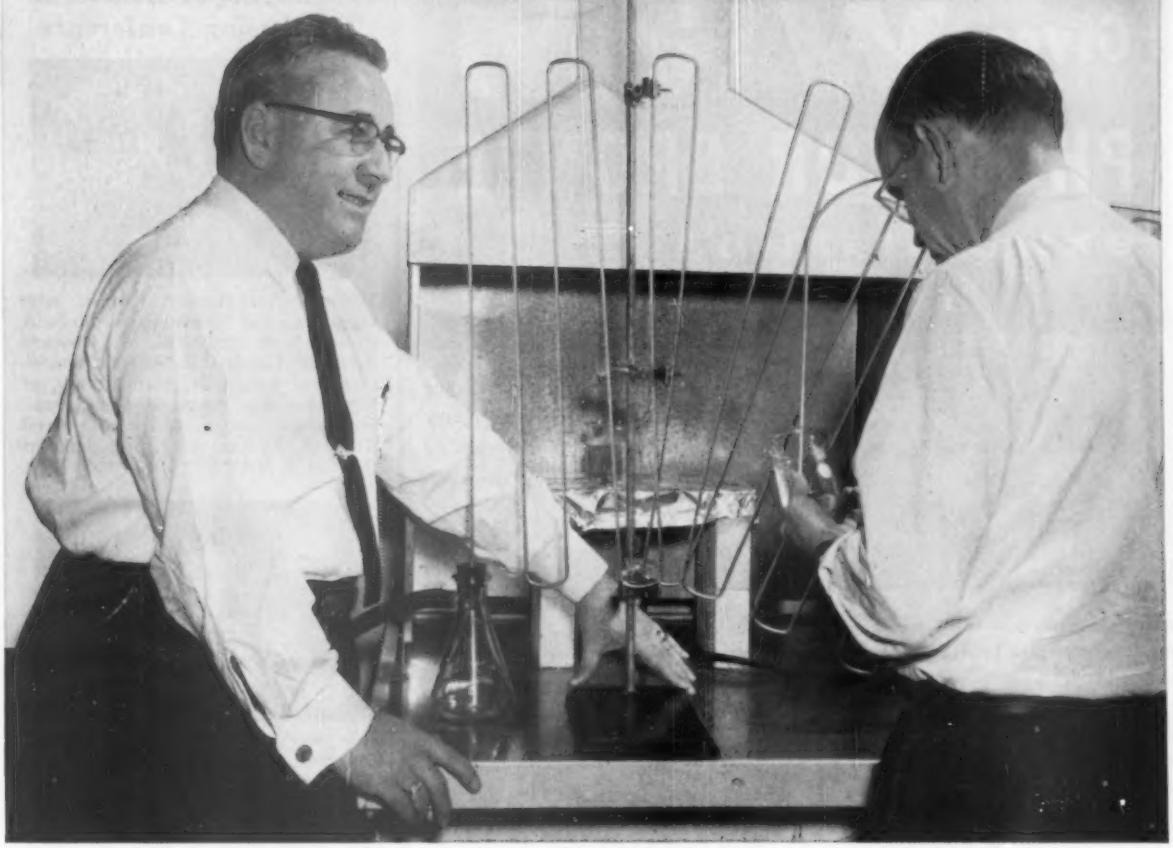
Vincent H. Gauchel

Formerly the company's assistant purchasing agent, Mr. Gauchel has been with Webster for sixteen years.

Ludlow Papers, Inc., Needham Heights, Mass., has announced the appointment of **George F. Bryant** as director of purchasing. Prior to his new assignment, Mr. Bryant was plant manager of Ludlow's Netcong, N.J. plant. Previous to this he had served in various technical and production capacities for the company. Before joining Ludlow, Mr. Bryant was with Union Bag-Camp Paper Corporation. His duties there ranged from assistant to the director of exports to assistant to the marketing manager of the multiwall division.

The appointment of **Arnold Paskoff** as head buyer of the Connecticut Wholesale Drug Division of Ketchum & Co., Inc., Waterbury, Conn., has been announced. Mr. Paskoff, who has served Ketchum since 1950, previously held the position of assistant buyer of the Barry Division of Ketchum & Co., Inc., Long Island City, New York. In his new post, Mr. Paskoff will supervise buying of a full line of drugs, sundries, and proprietary items, for the division.

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Rochester Products Division of General Motors, Rochester, New York.

See Sweet's Catalog 1a/Ro

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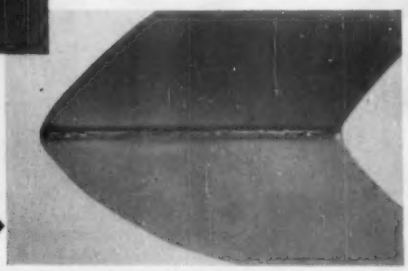
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Close up of ordinary-annealed spring temper phosphor bronze shows surface beginning to rupture at the bend.

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Association News

Highlights of District II Purchasing Conference



National purchasing figures who attended the conference include, from left to right, G. W. Howard Ahl and Gorden B. Affleck, secretary and president, respectively, of NAPA; Gene Akin, Wichita, general conference chairman; Fred Bradley, Dallas, vice president of District 2, NAPA.



This year's winner of the Harold M. Cosgrove award is Jess Pate, center, City of Amarillo, Texas. W. C. Adamek, American Electric Company, left, hands the award to Mr. Pate while Fred Bradley, purchasing agent, Southern Union Gas Company, Dallas, Texas, and vice president of District II NAPA stands by.

Transportation Manager Speaks at Dallas

Kenneth P. Tubbs, manager of transportation department, Dallas Chamber of Commerce, spoke on "Purchasing Transportation" at a recent dinner meeting of the Purchasing Agents Association of Dallas. In addition, a five minute talk on "Purchase Order Numbering" was given by Herbert H. Morehouse, Watson Electric Company.

Prior to the talks, Donald W. Keck, a student at Southern Methodist University was awarded the association's first annual educational scholarship. There to see him receive the award were faculty members of the University who are directly associated with purchasing courses.

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6. Rockwell hardness test
7. Flare & flatten test
8. Dye penetrant (over entire length of tube)
9. Metallographic mount (for checking analysis, temper, grain size and structure)
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11. Corrosion tests (Huey, salt spray, Strauss, autoclave, etc.)
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13. X-ray inspection
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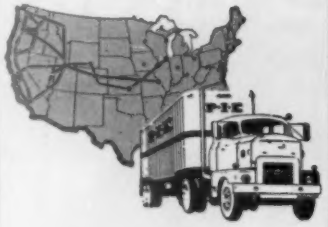
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Purchasing People

Combustion Engineering, Inc., New York City, has announced that **James M. Cowell, Jr.** has joined the organization as director



James M. Cowell, Jr.

of purchases. Mr. Cowell was formerly with Curtiss-Wright Corporation, where he served as director of purchases for the Wright Aeronautical Division. Prior to that he was production control manager of the same division. He is a member of the New York Chapter of the National Association of Purchasing Agents.

Illinois Institute of Technology, Chicago, Ill., has named **M. Gale Morgan** as purchasing agent. Mr. Morgan comes to IIT from Valparaiso University, where he was assistant business manager for eight years. Previously, he served as purchasing agent at Argonne National Laboratories. For ten years he was assistant purchasing agent at the University of Chicago. He also was an engineering assistant at the Peoples' Light, Gas, and Coke Co.

Theodore S. Stoughton has been named purchasing agent for Mason, Shaver & Rhoades, Inc., East McKeesport, Pa. He previously served in a similar capacity for the J. M. Ney Company, of Hartford, Conn.

Appointment of **H. E. Williams, Jr.** as purchasing agent of Saco-Lowell Automotive Division, Saco, Maine, has been announced.



H. E. Williams, Jr.

Mr. Williams, was previously executive assistant to manager of purchases. Before that he was with both General Electric and Bethlehem Steel.

Henry A. Jewell has been named director of procurement and material for Saco-Lowell Shops, Boston, Mass. Mr. Jewell came to Saco-Lowell direct from Long Manufacturing Division of Borg-Warner Corporation, where he was director of purchases. Before that he was with Bendix Home Appliance, Kelvinator Corporation, and Timken-Detroit Axle Company. At one time he was president of the Detroit Mechanical Hoist Corporation.

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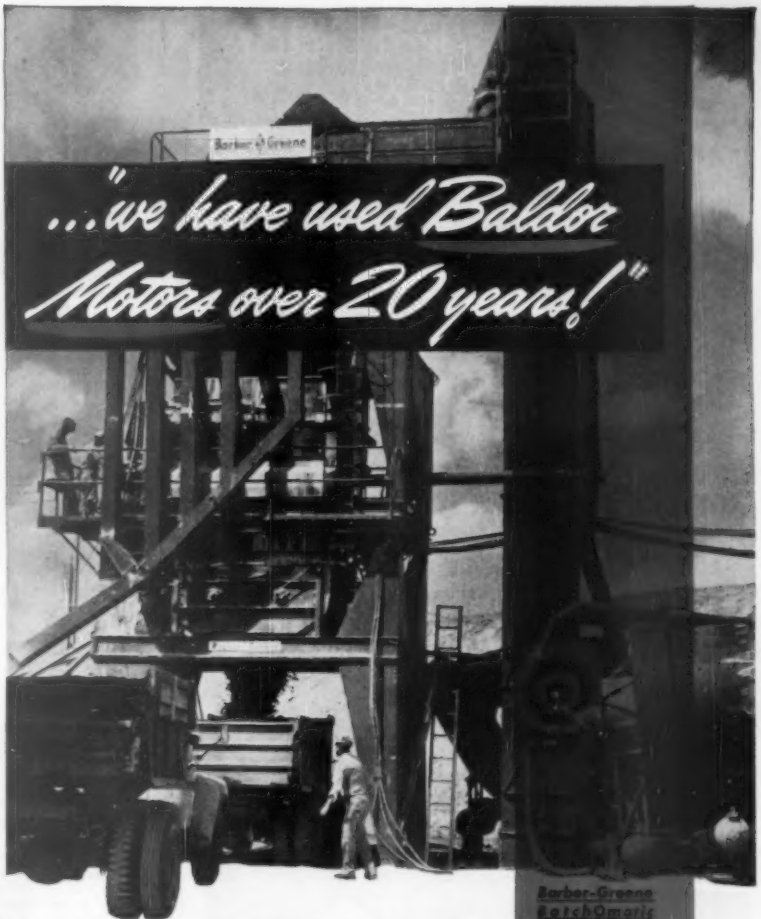
Oral Contracts

(*Continued from page 78*)

phasized that the fact that minor changes and adjustments necessary to suit another customer, does not bring the case within the exception. It was pointed out that the terms of the statute must be clearly met, i.e., the goods must not be suitable for sale to others in the ordinary course of the seller's business. The decision also held that it is not necessary that a single buyer be found to take all the goods. It is sufficient if the goods are of such nature that they are acceptable in the trade and in line with seller's usual business.

Study of the cases bearing on this problem shows that it often becomes a question of fact as to how much alteration was made and whether, after alteration, the product, machine, or equipment is reasonably salable to others. Some courts, as in various New York decisions, have held the seller to a strong measure of proof in showing that the item orally ordered is special. In one case, recovery was denied the seller even when he wrote the buyer in advance, stating that the item would be special. Other decisions, as in a Michigan case, have favored the seller and permitted recovery on a showing of relatively minor alteration for the buyer's oral order.

For the purchasing agent the legal problem of special manufacture against an alleged order not in writing is not a mere question of academic interest. It can be an area of potential danger and serious pitfalls. In the writer's experience, there have been instances in which industrial purchasing agents were much embarrassed because suppliers manufactured substantial overruns or proceeded with special patterns, dies, etc. on alleged oral assurances of the buyer. It is not an uncommon experience for vendors to tell purchasing agents that they will go ahead with special dies, fixtures, etc. in order to be ready and assure us orally that there will be "no obligation." The danger in this situation should be readily apparent.



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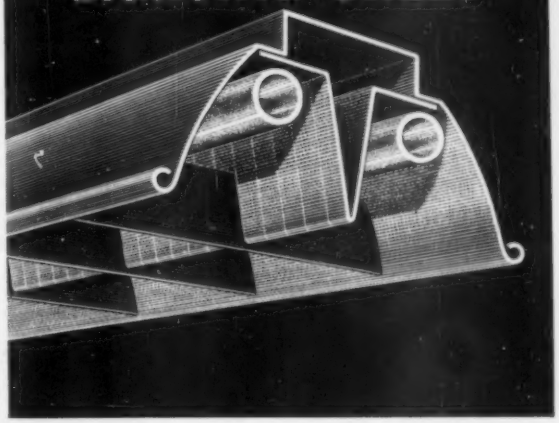
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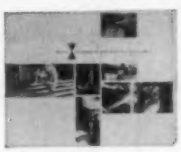
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Experience: Two years in credit organization as manager. Two years as college management professor. Would like something which might lead to travel to Europe, but this not necessary.
Education: B. S. Commerce & Math, M.B.A. Many honors & honorary societies.
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Write. Box 265

Experience: Want challenging position to make use of 3 years purchasing experience in leather, findings and machinery for shoe industry. Also 5 years with full responsibility for traffic and materials control in overseas operation and 2 years as production manager. Quite familiar with manufacturing and office details of shoemaking.
Education: A.A. and B.A. in Economics with emphasis on industrial relations, night school courses in shoemaking and inventory control and procurement.
Will relocate. New England or New York State area.
Write: Box 266

Experience: Procurement manager—20 years—machinery, castings, lumber, steel, brass, bearings, gears, paper, steel & bronze castings, printing, subcontracting, set up expediting & purchasing control procedures. Purchased to volume of 25 million per year.
Education: Business school.
Will relocate.
Write: Box 267

Experience: 16½ years with same steel fabricating plant, 4½ years as asst. purchasing agent, including expediting and inventory control, covering all phases of procurement of such items as steel, castings, patterns, dies, chains, drives, reducers, motors, electrical components, plastics, temperature controls and items totalling 10,000 plus.
Education: Special Evening Courses in Drafting, Math & Accounting.
Write: Box 268

Experience: 17 years Industrial Purchasing, 14 of this with present employer. All types production, textile, sewing, packaging, research and machine shop equipment, including all electrical, maintenance, mill and office requirements for five plants. Also two new plant expansion building programs. In addition have good electronics background—factory—research. Broad experience all phases of procurement, value analysis, and cost reduction.
Education: Business Administration, Accounting and various Purchasing courses.
South or Southwestern states only.
Write: Box 269.

Experience: 6 years as industrial buyer purchasing raw materials, parts, supplies, and machinery for manufacturer of sporting goods. 5 years inventory control, production control, and cost accounting. Experience includes, scheduling, expediting, routing, and supervision of personnel.
Education: High school and business college.
Will relocate.
Write Box 270.

Experience: One year diversified municipal procurement. Five years administrative and personnel supervisory capacities. Sales background. Young, veteran.
Education: BBA in Marketing. One year law, plus diversified curriculum.
Will relocate.
Write: Box 271.

Experience: Administration of contracts for long term purchases, sales of scrap, surplus—Expedited vendor's top management—Supervised specifications and standardization in multi-plant operations. Buyer of ferrous and nonferrous metals; machined and precision parts; chemicals; some electronics; machinery; equipment.
Education: College in France and Switzerland. Courses in industrial purchasing.
Will relocate.
Write: Box 272.

Experience: Eleven years diversified experience including fields of engineering—construction, electro-mechanical and chemical production in multi-plant operation. Qualified by education and experience to manage purchasing dept. of any type and size.
Education: Degree of Mechanical Engineer.
Will relocate.
Write: Box 273.

Experience: 10 years in industry and purchasing with background in electronics; supervision all facets of procurement; able to predict lead time; anticipate needed parts; coordinate easily with manufacturing sections; good vendor relations; can set up procedure for long range procurement; save money; train buyers.
Education: B.S. Electrical Engineering.
Will relocate.
Write: Box 274.

Experience: 20 years purchasing experience. Currently director of material of large electronics manufacturer. Purchasing volume $25-$40 million per year. Responsible for all material required for commercial products and government contracts. Very strong on organization, training, systems, procedures. Member NAPA.
Education: Business Management Major.
Will relocate.
Write: Box 275.

Experience: For over 15 years had charge of buying all machinery, tools and dies, and repair and maintenance materials and raw materials. Company had machine shop, sheet steel fabricating plant, woodworking plant, complete facilities for electro plating and finishing in air dry and baked enamels. Four years factory manager also.
Education: 2 years College, Business Administration.
Will relocate.
Write: Box 276.

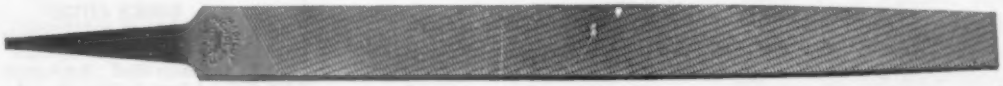
Experience: A year and one-half as buyer for aircraft research and development operation. Responsible for purchasing and expediting items including mill supplies, electronic material, steel, aluminum, etc.
Education: B.B.A. Major in marketing and sales administration.
Will relocate.
Write: Box 281.

Experience: Two years general office experience; desires training position in purchasing department. No previous purchasing experience.
Education: B.S. Business administration.
Prefer Los Angeles/Long Beach area.
Write: Box 284.

Listings in this department are offered without charge. Both purchasing department personnel interested in changing jobs and employers in search of replacements or additions to their departments may take advantage of this service. When writing, specify whether you want the applicant's form or the employer's form. Address all correspondence to Employment Service Department, PURCHASING Magazine, 205 East 42nd Street, New York 17, New York.

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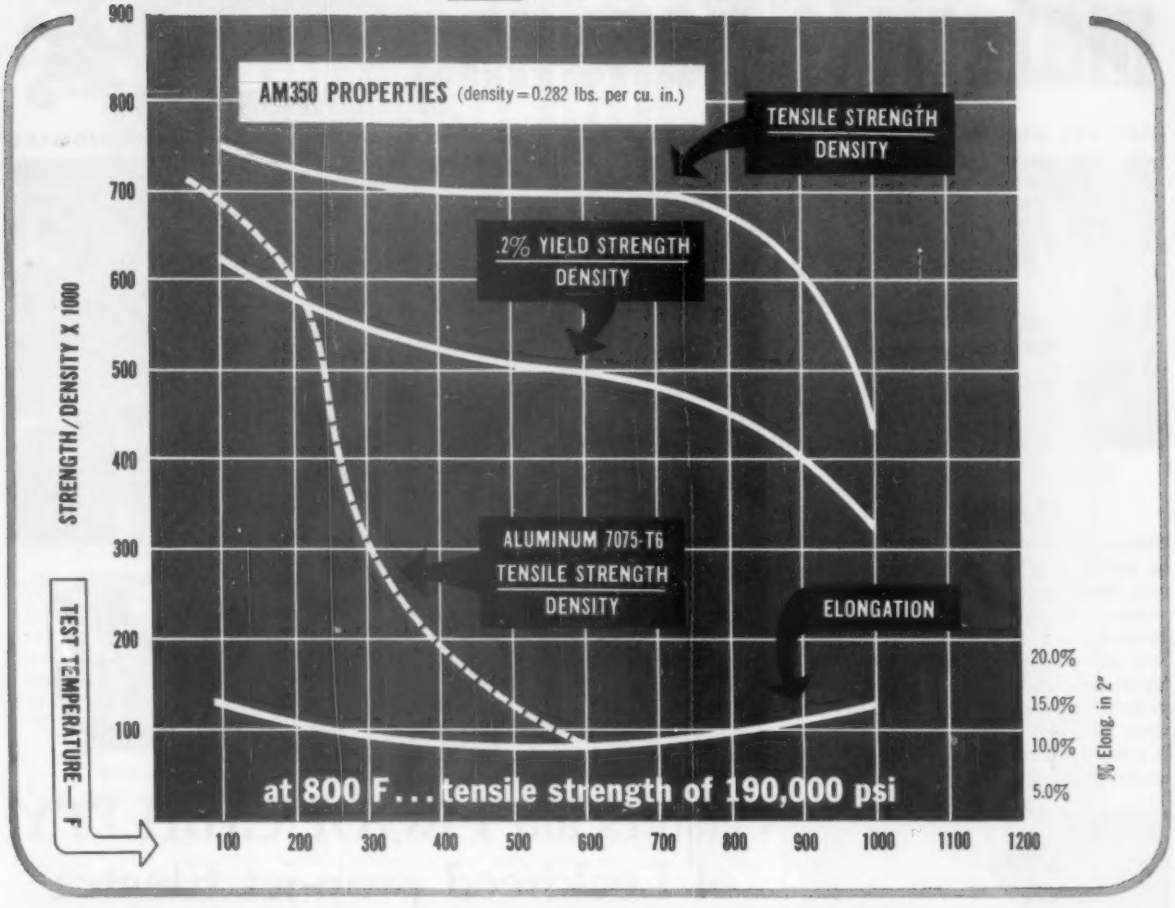
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Experience**—the extra alloy in **Allegheny Stainless



Here are the facts on AM350 and AM355, Allegheny Ludlum's precipitation hardening stainless steels

A unique combination of highly desirable properties is the usual description of Allegheny Stainless AM350 and AM355 Steels. They combine high strength at both room and elevated temperatures, excellent corrosion resistance, ease of fabrication, low temperature heat treatment, good resistance to stress corrosion.

They are proving the answer to many problems of the air age. Airframe and other structural parts, pressure tanks, power plant components, high pressure ducting, etc. are all natural missile and supersonic aircraft applications for AM350 and AM355.

Availability: AM350, introduced several years ago, is available commercially in sheet, strip, foil, small bars and wire. AM355, best suited for heavier sections, is available in forgings, forging billets, plate, bar and wire.

Corrosion resistant: Being stainless steels, these alloys resist corrosion and oxidation. Compared to the older, more familiar stainless grades, their corrosion rating is better than the hardenable grades (chromium martensitic) but generally less than the old corrosion resistant standbys, the 18 and 8's. Stress corrosion is resisted at much higher hardness levels than with martensitic stainless.

Simple heat treatment: High strength is developed by two methods, both involving less than ordinary temperatures and minimizing oxidation and distortion problems. The most popular, and one that develops slightly better properties, is the Allegheny Ludlum developed sub-zero cooling and tempering (SCT condition). The material is held at minus 100 F for 3 hrs plus 3 hrs at 850 F. Alternate method is Double Aged (DA): 2 hrs at 1375 F plus 2 hrs at 850 F.

Easy fabrication: AM350 and AM355 can be spun, drawn, formed, machined and welded using similar procedures as with the 18-8 stainless types. In the hardened condition (SCT & DA) some forming may be done . . . 180 degree bend over a 3T radius pin. Also it can be dimpled in the hard condition to insure accurate fit-up.

For further information, see your A-L sales engineer or write for the booklet "Engineering Properties, AM350 and AM355." ***Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*** Address Dept. P-12.

WBW 7227

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EVERY FORM OF STAINLESS . . . EVERY HELP IN USING IT

For More Information Write No. 258 on Inquiry Card—Page 32

materials-handling news

NEW AND UNUSUAL APPLICATIONS OF BASSICK CASTERS THAT MIGHT BE ADAPTED TO YOUR HANDLING PROBLEMS



Handles 1.25 million lbs. of paper a day

Philadelphia Bulletin's huge new plant uses an infloor dragline system, carts equipped with Bassick casters, to unload, store, and transport one-ton rolls of newsprint. Lewis-Shepard, a leading materials-handling equipment manufacturer, selected Bassick casters for the carts. Casters have to be built for top performance, low maintenance and long life when an expert in the field chooses them. A point worth remembering next time you need casters.



Mother substitute rides casters

Using a caster as the rear landing gear of a decoy, Dr. E. H. Hess, Associate Professor of Psychology at the University of Chicago, studies duck behavior patterns and possible human parallels. The Hess decoys, wired for sound and moving by remote control are used to discover how very early impressions affect duck's later social patterns.

New ideas with casters

Your local distributor who handles Bassick casters can often suggest new ways of moving materials that may save you time or money. He can also recommend the most efficient caster for your specific job and keep you up to date on new caster developments applicable to your operation. Call on him... he'll be glad to work with you and, where advisable, call in a Bassick Field Engineer for consultation. B-43



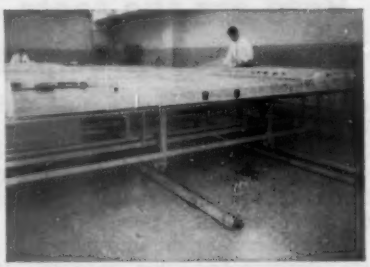
Casters aid PRODUCIBILITY of Lockheed prop-jet Electra

This short-to-medium-haul aircraft was designed for producibility. It had to be if agreements for performance, price and delivery were to be held firm.

Every production step at Lockheed Aircraft Corporation, Burbank, California, was planned to save time, save materials, save money.

That's why we're especially pleased that so many Bassick casters were used in assembling the Electra . . . and that they were used in so many ways. Typical is the mid-body wing cell, the Electra's central structural member, shown on Bassick casters above.

Keeping costs down on your production job . . . or any materials handling job, for that matter . . . starts with careful planning. And that's the point at which Bassick distributors or Bassick Engineers can help you most. Call on them.



Plant model sectionalized on casters

Sikorsky Aircraft, Division of United Aircraft Corporation has built the scale model of their plant at Stratford, Connecticut, on a sectionalized table. Each section rolls away on Bassick grooved wheel casters to give personnel access to center portions, otherwise hard to get at. With casters operating on inverted angle iron tracks, the sections roll back into exact position. This way you can make a model big enough to work with and yet get inside for close work.

see our catalog in Sweet's or write for copy

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A DIVISION OF
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SAFETY SWITCHES STAND UP UNDER 100,000 AMPERE SHORT CIRCUIT TEST!

INDEPENDENT TESTING LAB RELEASES FINDINGS AFTER GRUELLING "TORTURE RACK" TESTS

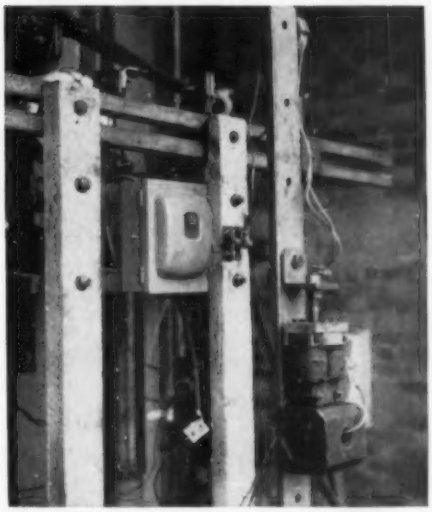
Unprecedented tests have been completed on 30 through 600 ampere rated Square D safety switches equipped with high capacity current limiting fuses. During these tests, switches were closed on a short circuit system delivering up to 100,000 amperes (symmetrical—R.M.S.). In addition, the fault was applied on the closed switches. *All switches withstood the shocks without any sign of failure!*

High Capacity Systems Demand Stamina

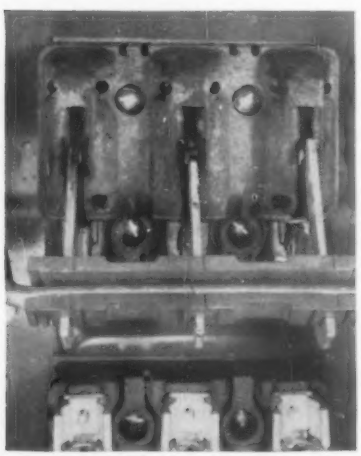
High capacity systems capable of delivering tremendous short circuits are becoming more and more prevalent with the growth of electrical loads. Network systems in metropolitan areas are a source of such faults. Another, the heavy industrial areas, with a concentration of sub-stations and rotating machinery. Terrific stresses and heat generated by such faults are serious hazards to both personnel and equipment unless properly contained. That is why proven protection for switching service and feeder circuits is of major concern.

Square D Standard Switches Do The Job

These tests offer conclu ve proof that standard Square L ype HD and Type ND switches, equipped with high capacity current limiting fuses, can be used on such systems without fear of failure. You pay no premium for the proven performance they offer. Why settle for less?



Square D switch on "torture rack" during test involving up to 100,000 ampere short circuit



SUMMARY TABLE • Extract from Report No. 5/NA R66—Sheet No. 5

Ampere Rating	Voltage Rating	Catalog Number	Average Symmetrical Prospective Current R.M.S.	Recovery Voltage R.M.S.	Maximum Total Arcing Time	Fuse Type
30	250	A85351	96,600	252	.0009	A2Y-30A
30	250	A85351	96,400	253	.0010	FRN-30A
30	600	A85341	107,000	590	.0020	A6Y-30A
30	600	A85341	106,000	601	.0027	FRS-30A
60	250	A86352	96,400	248	.0010	A2Y-60A
60	250	A86352	95,200	252	.0019	FRN-60A
60	600	A86342	106,000	605	.0011	A6Y-60A
60	600	A86342	108,000	595	.0020	FRS-60A
60	600	A86342	107,000	601	.0013	NAS-60A
100	250	A86353	95,200	253	.0009	A2Y-100A
100	600	A86343	108,080	604	.0014	A6Y-100A
200	250	A86354	95,200	253	.0037	A2Y-200A
200	600	A86344	107,000	602	.0011	A6Y-200A
400	250	A86355	95,900	252	.0039	A2Y-400A
400	600	A86345	106,000	611	.0050	A6Y-400A
600	250	A86356	94,500	251	.0062	A2Y-600A
600	600	A86346	107,000	601	.0062	A6Y-600A

Above • Extract of Nelson High Power Laboratory Report C/NA-66

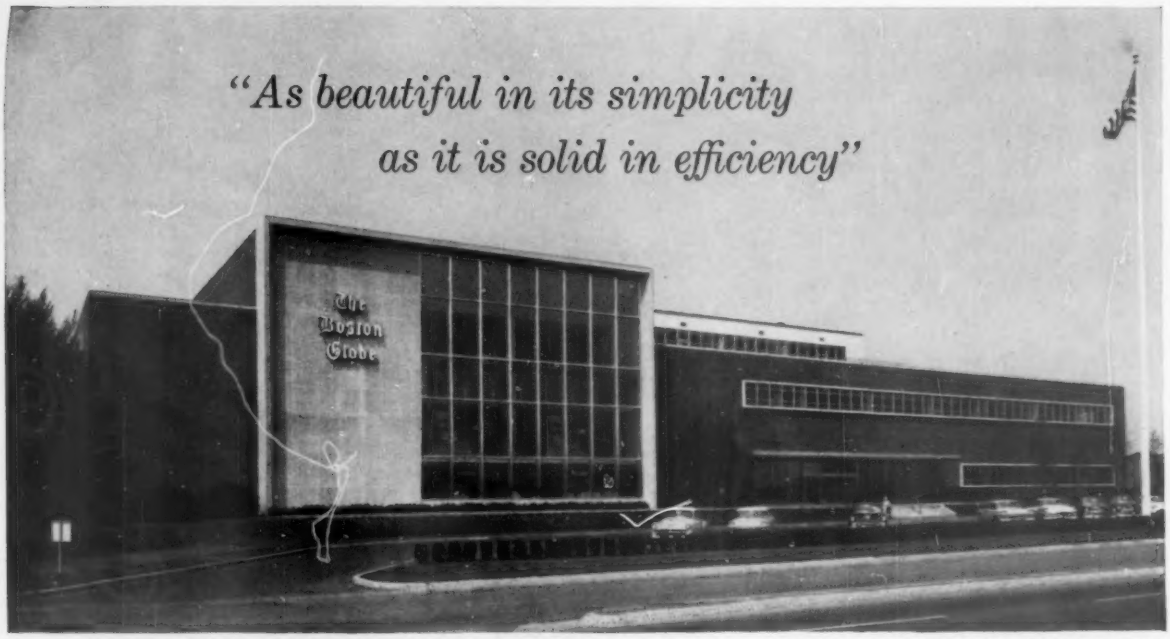
At left • No sign of failure in this switch interior after 100,000 ampere short circuit test

SQUARE D SAFETY SWITCHES GIVE YOU *Certified* PERFORMANCE!

SQUARE D VISIBLE BLADES you can SEE you're safe!

EC&M HEAVY INDUSTRY ELECTRICAL EQUIPMENT...NOW A PART OF THE SQUARE D LINE

SQUARE D COMPANY



Architect and Consulting Engineer: GANTEAUME & McMULLEN, BOSTON • *General Contractor:* TURNER CONSTRUCTION COMPANY, BOSTON
Heating and Air Conditioning Contractor: THE MERRILL COMPANY, INC., BOSTON • *Plumbing Contractor:* M. AHERN CO., BOSTON

New Boston Globe Building relies on JENKINS VALVES

When the Boston Globe moved into this modern newspaper plant, it *made* news. A showplace for passersby with its battery of 37 presses turning out the news in a "picture window" two stories high, the new $12,000,000 home of the 86-year-old Globe is a model of efficient operation.

Efficiency is seen throughout the building plan. For example, practically all mechanical departments are on the first floor. The stress on efficient, trouble-free operation is equally evident in the equipment specifications which provided for utmost dependability in everything mechanical. To assure complete dependability in the control of water, air, gas, heating and air conditioning lines, Jenkins Valves were chosen.

Because of such confidence, "JENKINS" has been the trusted valve specification of three generations of building men. Yet the valves that have this well-earned confidence *cost you no more. . . .* Jenkins Bros., 100 Park Avenue, New York 17.



These valves on the cooling system for press plates are among 1,402 Jenkins Valves serving the 15-acre Globe building.

Sold Through Leading Distributors Everywhere

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LOOK FOR THE JENKINS DIAMOND
VALVES
JENKINS SINCE 1864
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